

To: Poy, Thomas[poy.thomas@epa.gov]; Bergman, Ronald[Bergman.Ronald@epa.gov]
Cc: Burneson, Eric[Burneson.Eric@epa.gov]; Lopez-Carbo, Maria[Lopez-Carbo.Maria@epa.gov]; Parikh, Pooja[Parikh.Pooja@epa.gov]
From: Wehling, Carrie
Sent: Fri 9/25/2015 3:55:31 PM
Subject: RE: Precedent for Providing Alternate Water/Filters

The only way for us to provide filters/water is if we have funding. In the past, we've sometimes been able to do something by using authorities under another statute – like Superfund.

Caroline (Carrie) Wehling

Assistant General Counsel

Water Law Office

U.S. Environmental Protection Agency

Washington DC 20004

202-564-5492

wehling.carrie@epa.gov

From: Poy, Thomas
Sent: Friday, September 25, 2015 11:12 AM
To: Bergman, Ronald; Wehling, Carrie
Cc: Burneson, Eric; Lopez-Carbo, Maria; Parikh, Pooja
Subject: RE: Precedent for Providing Alternate Water/Filters

Ron: That's my take on it too. While 1431 is the mechanism to do something, there's the money issue for us, as it is for the city.

Tom

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Bergman, Ronald

Sent: Friday, September 25, 2015 9:21 AM

To: Wehling, Carrie

Cc: Poy, Thomas; Burneson, Eric; Lopez-Carbo, Maria; Parikh, Pooja

Subject: RE: Precedent for Providing Alternate Water/Filters

Thanks Carrie. It looks like this wouldn't help the mayor, who is asking for EPA to provide funds. I'm guessing the city would be the responsible party under 1431, since it was their actions that increased the lead levels. Therefore, we'd be ordering the city to pay for the filters or alternative water. Am I interpreting this correctly?

From: Wehling, Carrie

Sent: Wednesday, September 23, 2015 9:49 PM

To: Bergman, Ronald

Cc: Poy, Thomas; Burneson, Eric; Lopez-Carbo, Maria; Parikh, Pooja

Subject: Re: Precedent for Providing Alternate Water/Filters

We could provide water or filters under 1431 but there isn't funding under that provision so we usually order a responsible party to do it where possible. Adding in Pooja our 1431 expert.

Sent from my iPhone

On Sep 23, 2015, at 5:43 PM, Bergman, Ronald <Bergman.Ronald@epa.gov> wrote:

Hi Tom,

I'm adding Maria, who may remember something. We've been asked many times to provide bottled water or filters and we don't. I'm trying to remember the specific reason - legal or lack of funding vehicle. I believe Michigan can through their PWSS funding.

I'm also asking Carrie Wehling, who may remember our reasoning.

Sent from my iPhone

On Sep 23, 2015, at 5:33 PM, Poy, Thomas <poy.thomas@epa.gov> wrote:

Ron/Eric: Our RA has a call with Rep. Kildee tomorrow at 2:00, likely about funding. Our Congressional liaison was on the call with Tinka during Peter's meeting with Flint's mayor. She said that there was a commitment to look into precedents for EPA providing alternate water and/or filters for a community. Is this accurate? Has anything been done yet?

If this isn't accurate, do you know of any situation where EPA stepped in?

Thanks to Ron and Veronica Blette, I know that Brita and P&G donated filters/pitchers to DC in 2004. I don't recall of another situation – lead related or not.

I'll be checking with our Superfund and Emergency Response folks here too.

Thanks.

Tom

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

To: Johnson, Mark[johnson.mark@epa.gov]
From: Deamer, Eileen
Sent: Fri 9/25/2015 4:36:49 PM
Subject: FW: New Articles about Flint

From: Bassler, Rachel
Sent: Friday, September 25, 2015 11:32 AM
To: Hedman, Susan; Kaplan, Robert; Hyde, Tinka
Cc: Poy, Thomas; Fortin, Denise; Cassell, Peter; Beckmann, Ronna Erin; Deamer, Eileen; Kelley, Jeff
Subject: New Articles about Flint

Hi,

Filling in for Jeff. Below are clips from Flint:

- Kids In Michigan May Be Drinking Water That's Tainted With Lead (Think Progress)
- Area doctors urge seniors, children, pregnant women to stop drinking Flint water now (NBC 25 News)
- Did Flint, Michigan, Just Lead Poison Its Children? Doctors Think So. (Daily Beast)

<http://thinkprogress.org/health/2015/09/25/3705650/flint-drinking-water-lead/>

Kids In Michigan May Be Drinking Water That's Tainted With Lead (Think Progress)

BY **SAM P.K. COLLINS** SEP 25, 2015 10:59AM

When Flint, Michigan officials changed the source of drinking water from Lake Huron to Lake Flint last spring, they assured residents that safety wouldn't be a concern, even as stories about changes in color, smell of chemicals, and sicknesses circulated through the state and national media outlets.

New research, however, has confirmed the worst, linking the switch in drinking water to a significant increase in the levels of lead found in children's bloodstream. The study, conducted by Dr. Mona Hanna-Attisha of the Pediatric Residency Program Hurley Medical Center, found elevated lead blood levels — surpassing 5 micrograms per deciliter — in 4 percent of Flint youngsters, which is 2 percentage points higher than what they recorded last year.

Researchers drew blood samples from more than 1,700 children five years of age and younger and analyzed two groups of samples: those taken before and after the switch. They also collected data from children living in the neighboring Genesee County, which still gets its water from the Detroit water system. Those test results found no changes in lead/blood levels among children living in the Genesee area.

Representatives of the Greater Flint Health Coalition, a group dedicated to improving the quality of the community health care system, released a statement calling on local lawmakers to issue an official warning to residents about the dangers of the drinking water.

“The findings released today are alarming. Our top priority has to be doing everything we can and finding every available resource to ensure access to safe water for Flint residents,” Michigan State Senate Minority Leader Jim Ananich (D-Flint) said in a statement. “I will be leading an effort to raise state, private and philanthropic resources to deliver filters and clean water into the community as quickly as possible. We must act with urgency to protect Flint residents, especially those most vulnerable to the negative health impacts of lead: children,” Ananich, also chair of the Greater Flint Health Coalition, added.

State regulators quickly decried the study, calling concerns about Flint's drinking water “near hysteria.” Though Brad Wurfel, spokesperson at the Department of Environmental Quality, told U.S. News the drinking water met state and federal standards, he acknowledged that the aging water pipes haven't been maintained in more than 40 years.

The recent findings build on research previously conducted by scientists at Virginia Tech (VT) in August during which they collected and analyzed lead levels in 300 Flint homes. The researchers said the water in that area was five times more corrosive than other liquid sources in surrounding areas. VT Civil and environmental engineering professor Marc Edwards cited the study at a press conference earlier this month where he warned Flint residents that the water posed a significant danger to public health, unless it's properly filtered.

“This [problem with lead] is occurring because the water is too corrosive,” Edwards said. “It has too much salt in it, and there was no plan to control the corrosion when the city began using the river in April 2014. Flint is the only city in American that I’m aware of that does not have a corrosion-control plan in place to stop this kind of problem.”

Once lead enters the bloodstream via inhalation of dust, ingestion of food, drinking of water that flows through lead pipes, or hand to mouth activity, it travels to the nerves, kidneys, brain, muscles, and heart. In children and adults, the lead can be stored in the bones and teeth for decades before flowing into the bloodstream again and further damaging organs.

Long-term exposure to lead can cause blood anemia, colic, kidney damage, muscle weakness, brain damage, and death. Left unabated, lead in the bloodstream also affects reaction time, memory, and retention of new information. Hanna-Attisha’s report said evidence supported the likelihood of decreased IQ among youngsters with lead/blood levels as low as 4 micrograms per deciliter.

The media shed light on the perils of lead exposure earlier this year in the days after Freddie Gray died under mysterious circumstances while in police custody. In 2008, Gray’s family filed a lawsuit against Stanley Rochkind, the owner of a home they rented for four years, arguing that the children’s exposure to the substance played a significant part in their educational, behavioral and medical problems — including attention-deficit hyperactivity disorder. The residence in question didn’t undergo renovations when Baltimore City officials banned the use of lead-based paint in the 1970s.

On Friday, Hanna-Attisha made an appeal to Michigan lawmakers to prevent similar folly, pointing to the long-term public health effects of lead exposure. She said the issue could no longer be ignored. “It’s our professional obligation to care for the children of Flint if we know something,” Hanna-Attisha told the Associated Press. “Lead poisoning is irreversible. This is

not what our community needs. You have to err on the side of caution [and] educate the public.”

<http://nbc25news.com/news/local/area-doctors-send-out-warning-about-drinking-flint-water/>

Area doctors urge seniors, children, pregnant women to stop drinking Flint water now

BY NICKY ZIZAZA THURSDAY, SEPTEMBER 24TH 2015

FLINT — Today at Hurley Medical Center, doctors warned the public that lead levels in Flint water are too high and many residents should stop drinking it immediately.

Hurley did their own study of Flint water. They have advised senior citizens, children, and pregnant women to stop drinking Flint water right now or they could face irreversible damage. This damage could include memory loss or lowered IQ.

They found double the acceptable amount of lead in Flint water. They tested the specific zip codes done in the recent Virginia Tech study and found excessive blood lead levels in children and babies.

This will affect them not only now, but for decades to come, doctors say. They are advising people to use lead filters.

The head of the Genesee County Health Department, Mark Valacak, said that just looking at children won't identify any of the issues. A blood test is the only way to know for certain.

Dr. Mona Hanna-Attisha, who ran the study, says, "This is not what our community needs."

The Virginia Tech study showed that Flint River water was specifically causing lead in old pipes

to be released.

A gofundme account was recently set up by the Virginia Tech group, with the intent of buying the citizens of Flint filters that can remove the lead from the water.

Congressman Dan Kildee issued the following statement:

"Immediate action needs to be taken by the State of Michigan to ensure that relief is provided to people who are concerned about lead levels in their water. Today as part of my ongoing efforts, I talked with the EPA Region 5 Administrator about the State of Michigan providing emergency assistance, including lead-clearing filters and bottled water, until a more permanent solution can be determined."

"This new study by the medical community also raises additional doubts about prior water testing done by the DEQ and EPA that stated the water was in compliance with federal law. I have been completely unsatisfied with their answers to my questions regarding their testing methodology, which is why I have called for additional immediate independent and scientific testing to be done."

Senate Minority Leader Jim Ananich issued the following statement:

"The findings released today are alarming. Our top priority has to be doing everything we can and finding every available resource to ensure access to safe water for Flint residents. I will be leading an effort to raise state, private and philanthropic resources to deliver filters and clean water into the community as quickly as possible."

We must act with urgency to protect Flint residents, especially those most vulnerable to the negative health impacts of lead: children. Anyone with concerns about their water should visit flintwaterinfo.com and contact their physician or the Genesee County Health Department immediately."

<http://www.thedailybeast.com/articles/2015/09/24/did-flint-michigan-just-lead-poison-its-children-doctors-think-so.html>

Did Flint, Michigan, Just Lead Poison Its Children? Doctors Think So.

By: Russell Saunders 09.24.15 6:10 PM ET

Since the city switched from Lake Huron to the Flint River as a water source, its children's lead levels have doubled.

According to researchers in Flint, Michigan, blood tests have revealed a distressing conclusion—the tap water residents are drinking is causing elevated lead levels in the city's children.

A new study headed by Dr. Mona Hanna-Attisha, a researcher and director of the pediatric residency program at Hurley Medical Center, compared blood tests taken over a span of months in 2013 with samples taken over a similar span this year. During the time between, the city of Flint changed the source of its drinking water from Lake Huron to treated water from the Flint River.

What they found by comparing the samples is that the percentage of children with lead levels over the acceptable limit nearly doubled after the change. In 2013, about 2 percent of tests had results over 5 micrograms per deciliter (the current "safe" cut-off level, above which steps to identify and mitigate the source of lead exposure are recommended). About 4 percent of the later samples revealed elevated levels. Areas that yielded the highest blood levels had an increase in abnormal samples from 2.5 percent to 6.3 percent.

The consequences of increased lead exposure, especially for younger children, can be dire. Symptoms can include developmental delays, irritability and sluggishness, as well as gastrointestinal problems like poor appetite, abdominal pain, and vomiting. Newborns can experience not only slowed development, but slowed growth.

The new study recommends that Flint city water not be used to mix infant formula, or consumed by pregnant women.

The reason the new water source may be contributing to these elevated lead levels does not have to do with the lead content of the river water itself, but rather its effects on the lead pipes that approximately 15,000 homes in the city are reported to have.

A group of volunteer researchers from Virginia Tech University have been doing ongoing work on the safety of Flint drinking water. Their lead investigator, 2007 MacArthur fellow Dr. Marc Edwards, has noted that treated Flint River water is 19 times as corrosive as water from Lake Huron. This causes the treated water to leach lead from pipes and soldering.

In a separate report, the Virginia Tech team analyzed Flint city water directly and found that 42 percent of the 120 samples collected had lead levels greater than 5 parts per billion, and 20 percent had levels about 15 ppb, the cut-off at which the Environmental Protection Agency requires action.

What is to be done about this problem remains to be seen. Dr. Hanna-Attisha has said that city officials told her a return to Lake Huron water is not financially feasible for Flint. The mayor is asking the state for \$10 million in funds to replace lead water service lines.

From: Kelley, Jeff
Sent: Thursday, September 24, 2015 4:39 PM
To: Bassler, Rachel
Subject: Fwd: Several new articles from the Flint Journal

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

----- Forwarded message -----
From: "**Kelley, Jeff**" <kelley.jeff@epa.gov>

Date: Thu, Sep 24, 2015 at 2:36 PM -0700

Subject: Several new articles from the Flint Journal

To: "Susan Hedman" <Hedman.Susan@epa.gov>, "Robert Kaplan
(kaplan.robert@epa.gov)" <kaplan.robert@epa.gov>, "Hyde, Tinka"
<hyde.tinka@epa.gov>

Cc: "Poy, Thomas" <poy.thomas@epa.gov>, "Fortin, Denise"
<Fortin.Denise@epa.gov>, "Cassell, Peter" <cassell.peter@epa.gov>, "Ronna
Beckmann" <Beckmann.Ronna@epa.gov>, "Eileen Deamer"
<Deamer.Eileen@epa.gov>

A bunch of clips from the Flint Journal ... all apparently posted today:

- City must abandon Flint River as drinking water source amid lead crisis
- Elevated lead found in more Flint kids after water switch, study finds
- Doctors to speak out today on lead in Flint water
- Flint to issue lead in water warning after push from doctors, health officials
- GoFundMe page created by Virginia Tech researcher to buy filters for Flint residents

http://www.mlive.com/opinion/flint/index.ssf/2015/09/abandon_flint_river_for_drinki.html

City must abandon Flint River as drinking water source amid lead crisis

The following is an opinion of The Flint Journal Editorial Board.

It's time to abandon the Flint River and go back to Lake Huron for Flint's drinking water.

And it's up to Gov. Rick Snyder to do it.

Flint residents were told they wouldn't notice any difference when officials made the switch April 25, 2014, after nearly 50 years of getting water from the Detroit pipeline.

"The water quality speaks for itself," Flint Mayor Dayne Walling said the day of the switch.

Today, that quality is still speaking and it's sounding worse by the day.

A switch that was made to save the cash-strapped city money has turned into a dangerous waiting game while crews build a new pipeline to Lake Huron.

But with the new pipeline still a year away from completion, Flint residents can no longer be asked to drink water that's safety cannot be guaranteed.

Elevated levels of the chemical TTHM in the water have segued into reports of elevated lead in the water. More Flint infants and children are being found with elevated levels of lead in their blood since the city switched to using the Flint River as its water source, according to a study from a Hurley Children's Hospital doctor.

While scientists debate test results, residents in one of the poorest cities in America are forced to either buy bottled water or take their chances with a system they're no longer confident is even safe.

This switch was made while Flint was under control of a state-appointed emergency manager, and we call upon the governor to make this right for Flint citizens by brokering a return to Detroit water that won't bankrupt the city of Flint.

Flint is in a crisis that was created in no small part by Snyder's hand-picked emergency manager and it is Snyder's job to fix this mess.

Officials have said that returning to Detroit water for the short term is not fiscally sound but that is not enough to justify staying with Flint River water. Flint is in the midst of a full-blown water emergency right now and it is incomprehensible that a solution cannot be found with our fellow Michiganders to deliver healthy water.

There is a lake full of healthy drinking water just an hour away and the pipes already in place to bring it here.

Clean water can be ours again.

Make the switch — now — before it's too late.

http://www.mlive.com/news/flint/index.ssf/2015/09/study_shows_twice_as_many_flin.html

Elevated lead found in more Flint kids after water switch, study finds

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 24, 2015 at 2:09 PM, updated September 24, 2015 at 4:31 PM

FLINT, MI -- More Flint infants and children are being found with elevated levels of lead in their blood since the city switched to using the Flint River as its water source, according to a new study by a Hurley Medical Center doctor.

The data show that the percentage of Flint infants and children with above average lead levels has nearly doubled citywide, and has nearly tripled among children in "high risk" areas of lead exposure, according to the study.

The research was based on blood samples from more than 1,700 children living in the city, and underscores Flint's struggles with water quality since switching from Lake Huron water in April 2014. Results of the study were delivered to Flint Mayor Dayne Walling and City Administrator Natasha Henderson this week.

The study includes a recommendation that the city end its use of the Flint River as its drinking water source "as soon as possible."

Among its key findings and recommendations:

- The percentage of children 5 years old and younger with more than 5 micrograms per deciliter of lead in their blood increased from 2.1 percent while Flint purchased Lake Huron water from the city of Detroit to 4 percent after the switch to the Flint River.
- The report also recommends that infant formula not be mixed with Flint tap water, that pregnant mothers not use city water, and that lead-clearing filters be distributed here.
- Areas of Flint with the highest lead levels, according to testing by Virginia Tech University, also showed the most drastic increases in elevated lead levels in children, rising from 2.5 percent to 6.3 percent.
- The study recommends the city declare a health advisory that could trigger additional resources from the federal government.

Findings from the study are expected to be discussed at a news conference scheduled for 3 p.m. today, Sept. 24, at Hurley.

In addition to lead researcher Dr. Mona Hanna-Attisha, representatives of the Greater Flint Health Coalition, Mott Children's Health Center, Hamilton Community Health Network and Genesee County Medical Society are also expected to speak about their concerns about the safety of Flint water.

The data from Flint children reveals an alarming increase in lead poisoning, said Hanna-Attisha, director of Hurley's pediatric residency program and an assistant professor in the Department of Pediatrics & Human Development at Michigan State University's College of Human Medicine.

The study used a database, built from blood tests collected from about 150 doctors and health care providers. It compares the lead levels in the blood of children from Jan. 1, 2013, until Sept. 15, 2013, to levels in samples collected from Jan. 1, 2015, until Sept. 15, 2015.

The city began using the Flint River as its drinking water source in April 2014, and testing by both the city and Virginia Tech have shown that lead is increasingly leaching into the city's water system.

City and state officials have said their own testing inside 169 homes in the city since the switch to river water have registered lead levels below the federal threshold of 15 parts per billion of lead.

Treated river water is 19 times more corrosive than Lake Huron water, according to Professor Marc Edwards of Virginia Tech, causing lead and lead solder in water transmission pipes and home plumbing to seep into the water supply.

Although there are measures that can be taken to reduce corrosiveness in water, including the use of phosphates, Flint had no such plan in place.

"This (higher blood lead levels in children) is exactly what you would expect to see when you put highly corrosive water into a city with so much lead plumbing and pipes," Edwards said today.

"If you look at the level of lead in Flint water, (the study is) perfectly consistent with (my) expectations."

Walling announced earlier this month that the city would speed up efforts to develop a corrosion control plan by the end of the year and has asked Gov. Rick Snyder for \$10 million to replace water service lines with lead or lead solder in them.

City and state officials have estimated 15,000 homes in Flint have service lines made with lead.

The Flint Journal-MLive could not reach Walling or Henderson for comment on the new study this morning.

On Wednesday, Sept. 23, the mayor said he would issue an advisory and promote ways to minimize residents' exposure to lead such as flushing pipes before drinking city water.

Hanna-Attisha and Dr. Lawrence Reynolds, president and chief executive officer of Mott Children's Health Center, said they met Walling, Henderson and Department of Public Works Director Howard Croft Monday, Sept. 21, and were told that a return to purchasing water from Detroit would bankrupt the city.

The doctors said they are issuing their recommendations, including an end to use of the Flint River as a water source, because the city has so far failed to act.

"It's our professional obligation to care for the children of Flint (and to tell parents) if we know something," Hanna-Attisha said. "Lead poisoning is irreversible. This is not what our community needs. You have to err on the side of caution (and) educate the public."

State Senate Minority Leader Jim Ananich, D-Flint, issued a statement today, calling the findings of the lead study "alarming."

"Our top priority has to be doing everything we can and finding every available resource to ensure access to safe water for Flint residents," Ananich's statement says. "I will be leading an effort to raise state, private and philanthropic resources to deliver filters and clean water into the community as quickly as possible."

Blood lead levels above 5 micrograms per deciliter are considered elevated by the Center for Disease Control and Prevention and the new study says increasing evidence shows no safe blood lead level.

Lead is a toxic metal that was used for many years in products found in and around homes and may cause health effects such as behavioral problems and learning disabilities, according to the U.S. Environmental Protection Agency.

Reynolds said today in addition to the cost of reconnecting Flint to Detroit water, city and state officials must consider the cost of distributing water with higher lead levels than necessary, including the potential for additional attention deficit hyperactivity disorder, lower IQs, and delinquent behavior.

"No amount of lead is good for human beings," he said. "We cannot predict which child will be affected by high lead levels (and) we have a ... risk we can prevent ...

"you can pay now or pay later," he said.

The city began using the Flint River as a water source for the first time in more than 50 years in April 2014 -- a decision made by state-appointed emergency manager Darnell Earley.

Former emergency manager Jerry Ambrose, who replaced Earley, has said returning Flint to the Detroit-supplied Lake Huron water would be cost-prohibitive, resulting in an increase of about 30 percent in water rates.

Walling has also opposed a short-term contract to buy water from Detroit.

http://www.mlive.com/news/flint/index.ssf/2015/09/doctors_health_officials_to_sp.html

Doctors to speak out today on lead in Flint water

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 24, 2015 at 12:40 PM, updated September 24, 2015 at 3:24 PM

FLINT, MI -- Representatives of several Flint medical institutions, including Hurley Medical Center and Mott Children's Health Center, say they will discuss their concerns regarding lead levels in the city's drinking water at a news conference today, Sept. 24.

Hurley said in a news release that it will host the groups at the 3 p.m. news conference and that the meeting will also include representatives of the Flint Health Coalition, Hamilton Community Health Network and Genesee County Medical Society.

The news conference comes one day after Mayor Dayne Walling told The Flint Journal-MLive that the city would issue a lead advisory in the wake of the Greater Flint Health Coalition urgently asking the city to take that step.

The Journal could not reach Walling or City Administrator Natasha Henderson for comment today.

Walling and other city officials met with representatives of the coalition this week, hearing their concerns about the safety of Flint water.

The coalition issued a statement saying "not enough was being done to alert the public to potential risks of consuming Flint city water that could lead to elevated levels of lead."

Researchers from Virginia Tech University reported this month that their testing of Flint water in homes shows a far-reaching problem with lead.

Ten percent of Flint homes tested by Virginia Tech had 25 parts per billion of lead or more, far more than the allowable level -- 15 ppb -- set in federal guidelines, according to the university researchers.

City and state officials have said their testing shows Flint's water supply meets all health and safety regulations, never rising above 11 ppb in more than 10 percent of homes during the last 16 months.

Data from the state Department of Environment Quality shows lead levels have spiked since the city began using the Flint River as its water source in April 2014 but remained within federal thresholds for lead.

http://www.mlive.com/news/flint/index.ssf/2015/09/flint_will_issue_lead_advisory.html

Flint to issue lead in water warning after push from doctors, health officials

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 24, 2015 at 5:50 AM, updated September 24, 2015 at 9:59 AM

FLINT, MI -- The city of Flint is expected to advise its water customers on ways to minimize exposure to lead in its tap water -- particularly for children -- after a group that includes doctors and health officials strongly suggested the step.

Flint Mayor Dayne Walling confirmed the move on Wednesday, Sept. 23, after The Flint Journal-MLive learned the Greater Flint Health Coalition approved a resolution two days prior urgently asking the city to issue the advisory.

Representatives of the coalition met privately with Walling and other city officials to express their concerns about the safety of Flint water, and issued a statement saying "not enough was being done to alert the public to potential risks of consuming Flint city water that could lead to elevated levels of lead."

Walling's statement said the city "will be issuing an advisory" on the matter "in cooperation with health partners promoting ways to minimize the exposure to lead such as flushing pipes when the water has been sitting." He did not specify when the advisory would be issued.

Walling, who earlier this month asked Gov. Rick Snyder for \$30 million for Flint's infrastructure, including \$10 million to replace lead service lines to homes, said in an email that he "will continue to pursue funding for a comprehensive healthy homes initiative that addresses lead in paint and pipes."

"We have to get the lead out of our community to eliminate the threat of childhood lead poisoning," the statement says. "I am extremely concerned to hear from doctors about any elevated blood lead levels in Flint's children."

The Journal could not immediately reach Walling for more information on the concerns expressed to him by doctors about lead.

Kirk D. Smith, president and chief executive officer of the Greater Flint Health Coalition, and state Senate Minority Leader Jim Ananich, the chairman of the group's board of directors, issued a statement to The Journal about the coalition's recommendation on issuing precautions.

"As a coalition of concerned physicians, health care professionals and county leaders, we are compelled to inform the public when there is a possible threat to their health so they can take appropriate precautions and actions to protect themselves and their families," the joint statement says.

"At our last meeting and in recent days we have heard from numerous physicians who shared strong concerns that not enough was being done to alert the public to potential risks of consuming Flint city water that could lead to elevated levels of lead."

A resolution approved by the nonprofit coalition's board of directors, which includes representatives of Flint area hospitals, universities, physicians and unions, comes after researchers from Virginia Tech University reported their testing here shows a far-reaching problem with lead in water.

Ten percent of Flint homes tested by Virginia Tech had 25 parts per billion of lead or more, far more than the allowable level -- 15 ppb -- set in federal guidelines, according to the university researchers.

City and state officials have said their testing shows Flint's water supply meets all health

and safety regulations, never rising above 11 ppb in more than 10 percent of homes during the last 16 months, but data from the state Department of Environment Quality shows lead levels have spiked since the city began using the Flint River as its water source in April 2014.

At the urging of state and federal officials, the city announced three weeks ago that it would speed up the development of plans aimed at making Flint water less corrosive.

Professor Marc Edwards of Virginia Tech has said treated river water is currently far more corrosive than water the city had used for decades -- Lake Huron water that was treated and piped here by the city of Detroit.

Edwards has criticized the city and the state for not having developed a plan for reducing the corrosiveness of Flint's water because an estimated 15,000 homes in the city have lead or lead solder in service lines and plumbing, making the homes much more susceptible to lead leaching into water.

City Councilman Scott Kincaid, also a member of the GFHC, said he supported the organization's request for further action -- particularly after physicians raised concerns about how high lead levels could affect infants and young children.

"I'm supporting the resolution. I think we need to advise people that there is a potential concern," Kincaid said. "Lead isn't good for anybody, but the effect on infants" is especially disturbing.

Although the city has yet to issue its lead advisory, Walling's mention of allowing water to flush through pipes is the same advice given by Virginia Tech earlier this month.

Researchers at the university have also recommended that infants not be fed formula made with unfiltered Flint tap water and that residents who are not flushing water for five minutes before using it for drinking or cooking should use a filter certified to remove lead.

The Journal could not reach Dr. Lawrence Reynolds, president and CEO of Mott Children's Health Center, for comment Wednesday. Other coalition members said Reynolds led the push for additional, quick action by the city.

Lead is a toxic metal that was used for many years in products found in and around homes, according to the U.S. Environmental Protection Agency. Even at low levels, lead may cause health effects such as behavioral problems and learning disabilities.

Current regulations for lead in water began in 1992 and require a limited amount of testing to measure the degree to which lead leaches into tap water after flowing through lead service lines and lead solder in home plumbing.

Flint has struggled with its water quality since switching to the Flint River as its primary water source in April 2014. Previously, the city had purchased water through the city of Detroit, which got its water from Lake Huron.

Flint was required to step up its testing of water in homes after it shifted to the Flint River, which is intended to be a temporary move as the city and Genesee County are partners in building a new water pipeline to Lake Huron through a partnership called the Karegnondi Water Authority.

The city has been using -- and Walling and state emergency managers have supported continuing to use -- the Flint River as a stopgap water source until the KWA pipeline is expected to be completed in 2016.

In state testing of city water samples, Flint has stayed below the federal threshold for lead, with less than 10 percent of tap water samples exceeding 15 ppb.

Water systems can be required to take steps like making water less corrosive or replacing lead service lines if sampling shows such elevated lead levels.

But after the Virginia Tech testing showed lead was much more prevalent than Flint's testing showed, Edwards and U.S. Rep. Dan Kildee each raised doubts about the water testing by the city and DEQ.

Kildee said in a news release Sept. 21 that "the city, DEQ and (U.S. Environmental Protection Agency) have not adequately answered my questions on their testing methods to ensure the safety of Flint's water."

http://www.mlive.com/news/flint/index.ssf/2015/09/gofundme_page_created_by_virgi.html

GoFundMe page created by Virginia Tech researcher to buy filters for Flint residents

By Amanda Emery | aemery@mlive.com

The Flint Journal Follow on Twitter on September 23, 2015 at 5:00 AM, updated September 23, 2015 at 5:03 AM

FLINT, MI -- A Virginia Tech University researcher has started a GoFundMe campaign in an effort to purchase lead filters for Flint water customers in need.

Anurag Mantha, a graduate student at Virginia Tech, said he has been in charge of the Flint Water Study Group and the community outreach for the group. Mantha said his job has been to analyze water samples and call people with high levels of lead to tell them their water is unsafe to drink.

"So I have been calling people and they have been telling me that they couldn't afford to

buy filters." Mantha said. "That's one of the options we give to the people who have high amounts of lead. We tell them to buy NSF (National Sanitation Foundation) certified filters and they said they couldn't afford to buy them because their water bills were so high already and it was just a financial burden on them."

Virginia Tech researchers have said their testing shows a serious problem with lead in Flint water including 10 percent of homes that had 25 parts per billion of lead or more -- far more than the allowable level -- 15 ppb -- set in federal guidelines.

Mantha said he approached Professor Marc Edwards, who is heading up the study in Flint, and said he wanted to start a GoFundMe campaign to purchase filters for Flint residents in need. He said the campaign's goal is set at \$25,000, but he isn't waiting to hit the goal to start helping residents out.

"Once we get things finalized we'll use the first \$1,000 that we raise and kick the campaign off in Flint." Mantha said. "So that hopefully people will see that the money they are donating is doing some good."

The first priority in the giveaway will be single mothers, Manth said. He then plans to contact the Concerned Pastors for Social Action to determine the residents who are most in need.

Mantha said the cost of one filter is roughly \$40 and he is working with companies to purchase the filters. The NSF filters will remove lead from the water, he said.

As of Tuesday, Sept. 23, the campaign had already raised \$985. One-hundred percent of the funds raised will be used to buy the NSF filters.

For more information on the GoFundMe campaign, [click here](#).

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

To: Lindsey Smith[lmsmi@umich.edu]
Cc: Rowan, Anne[rowan.anne@epa.gov]; Kelley, Jeff[kelley.jeff@epa.gov]
From: Arcaute, Francisco
Sent: Fri 9/25/2015 6:08:32 PM
Subject: Re: Flint water interim report - media request

I'm out in the field. Won't get to this till Monday. What's

Sent from my iPhone

On Sep 25, 2015, at 11:57 AM, "Lindsey Smith" <lmsmi@umich.edu> wrote:

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All the best,

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West Michigan Reporter
Michigan Radio
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From: Bassler, Rachel
Sent: Fri 9/25/2015 7:32:32 PM
Subject: RE: New Articles about Flint - Updated 2:32 PM

New articles on Flint drinking water:

- Flint issues warning about lead in city's drinking water (Michigan Radio)
- Area doctors urge seniors, children, pregnant women to stop drinking Flint (Dispatch Times)
- Did This Michigan Town Poison Its Children? (US News and World Report)
- Lead contamination in water like 'living in a third-world country' (Fox Carolina)
- Flint officials issue lead advisory (Harold Current)

<http://michiganradio.org/post/flint-issues-warning-about-lead-citys-drinking-water#stream/0>

Flint issues warning about lead in city's drinking water

By STEVE CARMODY • 6 MINUTES AGO

Michigan Radio

The advisory comes a day after local hospital officials announced blood lead levels in young children in Flint have doubled, and in some cases tripled, since the city started getting its

drinking water from the Flint River in April of 2014.

Mayor Dayne Walling says city residents should take steps to reduce their lead exposure.

The city is recommending Flint water users:

- Flush cold water pipes by running the water for approximately five minutes before use.
- Use only water from the cold water tap for drinking, cooking and especially for making baby formula
- Install a water filter that is NSF-certified for lead removal

The mayor says the city is also taking steps to address the problem, and plans to reduce corrosion in the city's drinking water.

Walling says the goal is to make Flint "lead-free."

"So that whatever our water source and situation is ... that we are providing a safe environment for all of Flint's families ... especially our children," says Walling.

But it is the source of the city's drinking water that many critics say is the source of the problem.

Curt Guyette, with the ACLU, says city leaders' insistence that Flint's water is "clean and safe" while blaming lead pipes for the lead in the water is "double talk." Guyette says it's clear the corrosiveness of the Flint River is causing the lead pipes to break down.

"They are doing everything they can to try to not admit that," says Guyette.

City, Genesee County and state officials say they are reviewing data collected by researchers from Virginia Tech.

The Virginia Tech researchers tested water samples collected from nearly 300 Flint homes. Many of the homes tested above the 15 parts per billion threshold.

Similar testing by the city and overseen by the state showed lower lead levels.

Officials says it's that disagreement that's causing some delay in coming up with a response.

"You need concrete data. And I'm going to be quite honest, there's some conflicting data right now, in terms of the results that have been presented," says Mark Valacak is the health officer with the Genesee County Health Department.

"As we move forward, we'll have more data and be able to justify ... additional resources coming in to the community," says Valacak.

Mayor Walling has asked the governor's office for \$30 million to fix the system and help replace lead pipes.

The lead pipe problem is not confined to individual homes. City officials say 15,000 transmission lines connecting homes to city water mains are made with lead pipes. That's about half of the city's customers.

You can read an FAQ from the state about water lead levels [here](#).

<http://www.dispatchtimes.com/area-doctors-urge-seniors-children-pregnant-women-to-stop-drinking-flint/103934/>

Area doctors urge seniors, children, pregnant women to stop drinking Flint

BY NEWSMEDIA ON SEPTEMBER 25, 2015

Dispatch Times

They have advised senior citizens, children, and pregnant women to stop drinking *Flint* water right now or they could face irreversible damage.

Walling said the water source, whether the city continues to get water from the Flint River or go back to getting its water from Detroit, will continue to be a discussion.

The advisory was issued after researchers released findings of an increase of blood lead levels in Flint children.

But until the new system comes on-line in 2016, Flint is temporarily pulling water from the Flint River. This causes the treated water to leach lead from pipes and soldering. “We are very concerned and we will take steps to contain lead levels in the water”.

They said the levels of lead in certain neighborhoods have more than doubled since the city tapped its own water supply. About 4 percent of the later samples revealed elevated levels. In Flint’s highest risk ZIP codes, the change was even more surprising, she said – jumping from 2.5% of the children to 6.3%. Blood is drawn as part of routine lead-level testing, especially among children who are on Medicaid or are in high-risk areas. Newborns can experience not only slowed development, but slowed growth.

Residents said they are exhausted of hearing about what's wrong with the water, they want to know when it's going to be safe for everyone.

A group of volunteer researchers from Virginia Tech University have been doing ongoing work on the safety of Flint drinking water.

The city of Flint has issued a lead advisory for its residents.

State regulators quickly decried the study, calling concerns about Flint's drinking water "near hysteria".

What is to be done about this problem remains to be seen.

The Genesee County Medical Society Board of Directors approved a resolution Tuesday, September 25, encouraging breast feeding, advising no use of Flint tap water by infants who are fed formula, and encouraging the city to end its use of the Flint River as a water source "as soon as is practicable". The mayor is asking the state for \$10 million in funds to replace lead water service lines.

<http://www.usnews.com/news/articles/2015/09/25/flint-michigan-children-show-high-levels-of-lead-in-blood>

US News and World Report

Did This Michigan Town Poison Its Children?

Children in Flint, Michigan are showing high levels of blood lead.

Associated Press Sept. 25, 2015 | 8:46 a.m. EDT

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FLINT, Mich. (AP) — Some doctors urged Flint on Thursday to stop using the Flint River for water after finding high levels of lead in the blood of children, an extraordinary health warning in an ongoing controversy over the city's water supply.

"It's our professional obligation to care for the children of Flint if we know something," said the lead researcher, Dr. Mona Hanna-Attisha of Hurley Medical Center in Flint. "Lead poisoning is irreversible. This is not what our community needs. You have to err on the side of caution (and) educate the public."

There is no dispute that water drawn from the Flint River since 2014 is agitating and releasing lead in old pipes and service lines in thousands of homes. State regulators insist the water is safe, although they're urging anyone with concerns to have their water tested for free.

Hanna-Attisha said she looked at 1,746 test results from Flint children this year, compared to earlier results when Flint used Lake Huron as its water source. The percentage of kids with above-average lead levels had nearly doubled, according to the study. In certain areas, it tripled.

The study said Flint should stop using the Flint River "as soon as possible." Flint plans to switch to Lake Huron water again in 2016 when a pipeline is completed.

"No amount of lead is good for human beings. ... You can pay now or pay later," said Dr. Lawrence Reynolds, president and chief executive officer of Mott Children's Health Center, who appeared at a news conference with Hanna-Attisha.

State regulators quickly responded. Brad Wurfel, spokesman at the Department of Environmental Quality, said the water controversy is becoming "near-hysteria."

"I wouldn't call them irresponsible. I would call them unfortunate," Wurfel said of the doctors' comments.

"Flint's drinking water is safe in that it's meeting state and federal standards," he said. "The system has an aging portion that needs to be addressed. They haven't had meaningful maintenance for four decades or more."

The state Department of Health and Human Services hasn't found the same results in its own work, spokeswoman GERALYN Lasher said.

"Our experts want a better sense of how they got there," she said. "The data that we have is a much larger set of data. ... We're not seeing what those numbers look like."

<http://www.foxcarolina.com/story/30113032/lead-contamination-in-water-like-living-in-a-third-world-country>

Lead contamination in water like 'living in a third-world country'

Posted: Sep 24, 2015 11:39 PM CDT Updated: Sep 24, 2015 11:39 PM CDT

Posted By Lauren Chapman

By Gino Vicci, WNEM TV5 Reporter

Fox Carolina

FLINT, MI (WNEM) -

The lead in a city water supply is at levels so high, it's being called a crisis.

"It kind of makes me feel like I'm living in a third world country," said Flint resident Maggie Kagen.

People in Flint have complained about the taste of their water since the city stopped buying it from Detroit and tapped the Flint River instead.

"Medically... this is unacceptable," said Dr. Mona Hanna-Attisha, Hurley Medical Center.

To say the city of Flint has problems with its drinking water, according to residents, would be an understatement.

"It's getting ridiculous... I'm paying for something I can't use," Kagen said.

Kagen is a single mother of five who feels the state of Flint's water supply is a health crisis. And now a doctor from Hurley Medical Center is demanding it be addressed immediately.

"It's something that's needed to be said.. it's nothing new," Hanna-Attisha said.

What is new is the presence of lead in the city's drinking water.

"Because this is something that is preventable, and this is something that is causing lifelong problems," Hanna-Attisha said.

At a news conference on Thursday at Hurley Medical Center, doctors, the Genesee County Health Department and experts urged expectant mothers and new mothers of infants to not drink unfiltered tap water or use it to mix baby formula.

They said the levels of lead in certain neighborhoods have more than doubled since the city

tapped its own water supply.

Residents said they are tired of hearing about what's wrong with the water, they want to know when it's going to be safe for everyone.

"You can keep saying it's a problem, it's a problem, but if you don't come up with a solution, it doesn't make sense," said Cynthia Howell, a community advocate.

Howell is one of those residents who says enough is enough – it's time for a solution. One proposed solution at Thursday's news conference: switch the water supply back to Detroit.

Flint Mayor Dayne Walling said switching the water supply still doesn't address the city's aging infrastructure.

"We have to work long term get those lines replaced and eliminate this threat to childhood lead poisoning," Walling said.

Residents said they don't want to ignore the long-term needs of the city, but they wonder if there will be any relief in the short term.

<http://www.heraldcurent.com/flint-officials-issue-lead-advisory/6056/>

Flint officials issue lead advisory

Herald Current

SEPTEMBER 25, 2015 BY ROSALIND GILMORE IN HEALTH

This causes the treated water to leach lead from pipes and soldering. "It has too much salt in it, and there was no plan to control the corrosion when the city began using the river in April 2014" . Until the latest review, state data show that the percent of children with elevated blood lead levels have been falling for years.

The action comes in the same week that several health groups and physicians urged families not to use Flint tap water for infant formula because of rising levels of lead and a Hurley Medical Center doctor released a study showing increasing incidents of elevated blood lead levels in *Flint* children. "We are very concerned and we will take steps to contain lead levels in the water".

It opted instead to pull from the Karegnondi Water Authority, which is building a system to supply Genesee County with water pulled from Lake Huron.

The consequences of increased lead exposure, especially for younger children, can be dire. Areas that yielded the highest blood levels had an increase in abnormal samples from 2.5 percent to 6.3 percent. Symptoms can include developmental delays, irritability and sluggishness, as well as gastrointestinal problems like poor appetite, abdominal pain, and vomiting.

Residents said they are exhausted of hearing about what's wrong with the water, they want to know when it's going to be safe for everyone.

Water service lines installed before 1986 are more prone to lead issue due to the materials used in homes during that time, the city said in a press release.

A group of volunteer researchers from Virginia Tech University have been doing ongoing work on the safety of Flint drinking water.

Walling said earlier this week that city officials have been developing an advisory about lead dangers.

What is to be done about this problem remains to be seen.

Walling requested \$30 million in funding from the state for water infrastructure assistance.

The city administrator, Natasha Henderson, said city officials are working with the Department of Environmental Quality to get corrosion control in place in Flint's water system.

From: Bassler, Rachel
Sent: Friday, September 25, 2015 11:32 AM
To: Hedman, Susan; Kaplan, Robert; Hyde, Tinka
Cc: Poy, Thomas; Fortin, Denise; Cassell, Peter; Beckmann, Ronna Erin; Deamer, Eileen; Kelley, Jeff
Subject: New Articles about Flint

Hi,

Filling in for Jeff. Below are clips from Flint:

- Kids In Michigan May Be Drinking Water That's Tainted With Lead (Think Progress)
- Area doctors urge seniors, children, pregnant women to stop drinking Flint water now (NBC 25 News)
- Did Flint, Michigan, Just Lead Poison Its Children? Doctors Think So. (Daily Beast)

<http://thinkprogress.org/health/2015/09/25/3705650/flint-drinking-water-lead/>

Kids In Michigan May Be Drinking Water That's Tainted With Lead (Think Progress)

BY **SAM P.K. COLLINS** SEP 25, 2015 10:59AM

When Flint, Michigan officials changed the source of drinking water from Lake Huron to Lake Flint last spring, they assured residents that safety wouldn't be a concern, even as stories about changes in color, smell of chemicals, and sicknesses circulated through the state and national media outlets.

New research, however, has confirmed the worst, linking the switch in drinking water to a significant increase in the levels of lead found in children's bloodstream. The study, conducted by Dr. Mona Hanna-Attisha of the Pediatric Residency Program Hurley Medical Center, found elevated lead blood levels — surpassing 5 micrograms per deciliter — in 4 percent of Flint youngsters, which is 2 percentage points higher than what they recorded last year.

Researchers drew blood samples from more than 1,700 children five years of age and younger and analyzed two groups of samples: those taken before and after the switch. They also collected data from children living in the neighboring Genesee County, which still gets its water from the Detroit water system. Those test results found no changes in lead/blood levels among children living in the Genesee area.

Representatives of the Greater Flint Health Coalition, a group dedicated to improving the quality of the community health care system, released a statement calling on local lawmakers to issue an official warning to residents about the dangers of the drinking water.

“The findings released today are alarming. Our top priority has to be doing everything we can and finding every available resource to ensure access to safe water for Flint residents,” Michigan State Senate Minority Leader Jim Ananich (D-Flint) said in a statement. “I will be leading an effort to raise state, private and philanthropic resources to deliver filters and clean water into the community as quickly as possible. We must act with urgency to protect Flint residents, especially those most vulnerable to the negative health impacts of lead: children,” Ananich, also chair of the Greater Flint Health Coalition, added.

State regulators quickly decried the study, calling concerns about Flint’s drinking water “near hysteria.” Though Brad Wurfel, spokesperson at the Department of Environmental Quality, told U.S. News the drinking water met state and federal standards, he acknowledged that the aging water pipes haven’t been maintained in more than 40 years.

The recent findings build on research previously conducted by scientists at Virginia Tech (VT) in August during which they collected and analyzed lead levels in 300 Flint homes. The researchers said the water in that area was five times more corrosive than other liquid sources in surrounding areas. VT Civil and environmental engineering professor Marc Edwards cited the study at a press conference earlier this month where he warned Flint residents that the water posed a significant danger to public health, unless it’s properly filtered.

“This [problem with lead] is occurring because the water is too corrosive,” Edwards said. “It has too much salt in it, and there was no plan to control the corrosion when the city began using the river in April 2014. Flint is the only city in American that I’m aware of that does not have a corrosion-control plan in place to stop this kind of problem.”

Once lead enters the bloodstream via inhalation of dust, ingestion of food, drinking of water that flows through lead pipes, or hand to mouth activity, it travels to the nerves, kidneys, brain, muscles, and heart. In children and adults, the lead can be stored in the bones and teeth for decades before flowing into the bloodstream again and further damaging organs.

Long-term exposure to lead can cause blood anemia, colic, kidney damage, muscle weakness, brain damage, and death. Left unabated, lead in the bloodstream also affects reaction time, memory, and retention of new information. Hanna-Atisha's report said evidence supported the likelihood of decreased IQ among youngsters with lead/blood levels as low as 4 micrograms per deciliter.

The media shed light on the perils of lead exposure earlier this year in the days after Freddie Gray died under mysterious circumstances while in police custody. In 2008, Gray's family filed a lawsuit against Stanley Rochkind, the owner of a home they rented for four years, arguing that the children's exposure to the substance played a significant part in their educational, behavioral and medical problems — including attention-deficit hyperactivity disorder. The residence in question didn't undergo renovations when Baltimore City officials banned the use of lead-based paint in the 1970s.

On Friday, Hanna-Attisha made an appeal to Michigan lawmakers to prevent similar folly, pointing to the long-term public health effects of lead exposure. She said the issue could no longer be ignored. "It's our professional obligation to care for the children of Flint if we know something," Hanna-Attisha told the Associated Press. "Lead poisoning is irreversible. This is not what our community needs. You have to err on the side of caution [and] educate the public."

<http://nbc25news.com/news/local/area-doctors-send-out-warning-about-drinking-flint-water/>

Area doctors urge seniors, children, pregnant women to stop drinking Flint water now

BY NICKY ZIZAZA THURSDAY, SEPTEMBER 24TH 2015

FLINT — Today at Hurley Medical Center, doctors warned the public that lead levels in Flint water are too high and many residents should stop drinking it immediately.

Hurley did their own study of Flint water. They have advised senior citizens, children, and pregnant women to stop drinking Flint water right now or they could face irreversible damage. This damage could include memory loss or lowered IQ.

They found double the acceptable amount of lead in Flint water. They tested the specific zip codes done in the recent Virginia Tech study and found excessive blood lead levels in children and babies.

This will affect them not only now, but for decades to come, doctors say. They are advising people to use lead filters.

The head of the Genesee County Health Department, Mark Valacak, said that just looking at children won't identify any of the issues. A blood test is the only way to know for certain.

Dr. Mona Hanna-Attisha, who ran the study, says, "This is not what our community needs."

The Virginia Tech study showed that Flint River water was specifically causing lead in old pipes to be released.

A gofundme account was recently set up by the Virginia Tech group, with the intent of buying the citizens of Flint filters that can remove the lead from the water.

Congressman Dan Kildee issued the following statement:

"Immediate action needs to be taken by the State of Michigan to ensure that relief is provided to people who are concerned about lead levels in their water. Today as part of my ongoing efforts, I talked with the EPA Region 5 Administrator about the State of Michigan providing emergency assistance, including lead-clearing filters and bottled water, until a more permanent solution can be determined."

"This new study by the medical community also raises additional doubts about prior water testing done by the DEQ and EPA that stated the water was in compliance with federal law. I have been completely unsatisfied with their answers to my questions regarding their testing methodology, which is why I have called for additional immediate independent and scientific testing to be done."

Senate Minority Leader Jim Ananich issued the following statement:

"The findings released today are alarming. Our top priority has to be doing everything we can and finding every available resource to ensure access to safe water for Flint residents. I will be leading an effort to raise state, private and philanthropic resources to deliver filters and clean water into the community as quickly as possible.

We must act with urgency to protect Flint residents, especially those most vulnerable to the negative health impacts of lead: children. Anyone with concerns about their water should visit flintwaterinfo.com and contact their physician or the Genesee County Health Department immediately."

<http://www.thedailybeast.com/articles/2015/09/24/did-flint-michigan-just-lead-poison-its-children-doctors-think-so.html>

Did Flint, Michigan, Just Lead Poison Its Children? Doctors Think So.

By: Russell Saunders 09.24.15 6:10 PM ET

Since the city switched from Lake Huron to the Flint River as a water source, its children's lead levels have doubled.

According to researchers in Flint, Michigan, blood tests have revealed a distressing conclusion—the tap water residents are drinking is causing elevated lead levels in the city's children.

A new study headed by Dr. Mona Hanna-Attisha, a researcher and director of the pediatric residency program at Hurley Medical Center, compared blood tests taken over a span of months in 2013 with samples taken over a similar span this year. During the time between, the city of Flint changed the source of its drinking water from Lake Huron to treated water from the Flint River.

What they found by comparing the samples is that the percentage of children with lead levels

over the acceptable limit nearly doubled after the change. In 2013, about 2 percent of tests had results over 5 micrograms per deciliter (the current “safe” cut-off level, above which steps to identify and mitigate the source of lead exposure are recommended). About 4 percent of the later samples revealed elevated levels. Areas that yielded the highest blood levels had an increase in abnormal samples from 2.5 percent to 6.3 percent.

The consequences of increased lead exposure, especially for younger children, can be dire. Symptoms can include developmental delays, irritability and sluggishness, as well as gastrointestinal problems like poor appetite, abdominal pain, and vomiting. Newborns can experience not only slowed development, but slowed growth.

The new study recommends that Flint city water not be used to mix infant formula, or consumed by pregnant women.

The reason the new water source may be contributing to these elevated lead levels does not have to do with the lead content of the river water itself, but rather its effects on the lead pipes that approximately 15,000 homes in the city are reported to have.

A group of volunteer researchers from Virginia Tech University have been doing ongoing work on the safety of Flint drinking water. Their lead investigator, 2007 MacArthur fellow Dr. Marc Edwards, has noted that treated Flint River water is 19 times as corrosive as water from Lake Huron. This causes the treated water to leach lead from pipes and soldering.

In a separate report, the Virginia Tech team analyzed Flint city water directly and found that 42 percent of the 120 samples collected had lead levels greater than 5 parts per billion, and 20 percent had levels about 15 ppb, the cut-off at which the Environmental Protection Agency requires action.

What is to be done about this problem remains to be seen. Dr. Hanna-Attisha has said that city officials told her a return to Lake Huron water is not financially feasible for Flint. The mayor is asking the state for \$10 million in funds to replace lead water service lines.

From: Kelley, Jeff
Sent: Thursday, September 24, 2015 4:39 PM
To: Bassler, Rachel
Subject: Fwd: Several new articles from the Flint Journal

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: [312-353-1159](tel:312-353-1159)

----- Forwarded message -----

From: "**Kelley, Jeff**" <kelly.jeff@epa.gov>
Date: Thu, Sep 24, 2015 at 2:36 PM -0700
Subject: Several new articles from the Flint Journal
To: "Susan Hedman" <Hedman.Susan@epa.gov>, "Robert Kaplan" <kaplan.robert@epa.gov>, "Hyde, Tinka" <hyde.tinka@epa.gov>
Cc: "Poy, Thomas" <poy.thomas@epa.gov>, "Fortin, Denise" <Fortin.Denise@epa.gov>, "Cassell, Peter" <cassell.peter@epa.gov>, "Ronna Beckmann" <Beckmann.Ronna@epa.gov>, "Eileen Deamer" <Deamer.Eileen@epa.gov>

A bunch of clips from the Flint Journal ... all apparently posted today:

- City must abandon Flint River as drinking water source amid lead crisis
- Elevated lead found in more Flint kids after water switch, study finds
- Doctors to speak out today on lead in Flint water
- Flint to issue lead in water warning after push from doctors, health officials

- GoFundMe page created by Virginia Tech researcher to buy filters for Flint residents

http://www.mlive.com/opinion/flint/index.ssf/2015/09/abandon_flint_river_for_drinki.html

City must abandon Flint River as drinking water source amid lead crisis

The following is an opinion of The Flint Journal Editorial Board.

It's time to abandon the Flint River and go back to Lake Huron for Flint's drinking water.

And it's up to Gov. Rick Snyder to do it.

Flint residents were told they wouldn't notice any difference when officials made the switch April 25, 2014, after nearly 50 years of getting water from the Detroit pipeline.

"The water quality speaks for itself," Flint Mayor Dayne Walling said the day of the switch.

Today, that quality is still speaking and it's sounding worse by the day.

A switch that was made to save the cash-strapped city money has turned into a dangerous waiting game while crews build a new pipeline to Lake Huron.

But with the new pipeline still a year away from completion, Flint residents can no longer be asked to drink water that's safety cannot be guaranteed.

Elevated levels of the chemical TTHM in the water have segued into reports of elevated lead in the water. More Flint infants and children are being found with elevated levels of lead in their blood since the city switched to using the Flint River as its water source, according to a study from a Hurley Children's Hospital doctor.

While scientists debate test results, residents in one of the poorest cities in America are forced to either buy bottled water or take their chances with a system they're no longer confident is even safe.

This switch was made while Flint was under control of a state-appointed emergency manager, and we call upon the governor to make this right for Flint citizens by brokering a return to Detroit water that won't bankrupt the city of Flint.

Flint is in a crisis that was created in no small part by Snyder's hand-picked emergency manager and it is Snyder's job to fix this mess.

Officials have said that returning to Detroit water for the short term is not fiscally sound but that is not enough to justify staying with Flint River water. Flint is in the midst of a full-blown water emergency right now and it is incomprehensible that a solution cannot be found with our fellow Michiganders to deliver healthy water.

There is a lake full of healthy drinking water just an hour away and the pipes already in place to bring it here.

Clean water can be ours again.

Make the switch — now — before it's too late.

http://www.mlive.com/news/flint/index.ssf/2015/09/study_shows_twice_as_many_flin.html

Elevated lead found in more Flint kids after water switch, study finds

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 24, 2015 at 2:09 PM, updated September 24, 2015 at 4:31 PM

FLINT, MI -- More Flint infants and children are being found with elevated levels of lead in their blood since the city switched to using the Flint River as its water source, according to a new study by a Hurley Medical Center doctor.

The data show that the percentage of Flint infants and children with above average lead levels has nearly doubled citywide, and has nearly tripled among children in "high risk" areas of lead exposure, according to the study.

The research was based on blood samples from more than 1,700 children living in the city, and underscores Flint's struggles with water quality since switching from Lake Huron water in April 2014. Results of the study were delivered to Flint Mayor Dayne Walling and City Administrator Natasha Henderson this week.

The study includes a recommendation that the city end its use of the Flint River as its drinking water source "as soon as possible."

Among its key findings and recommendations:

- The percentage of children 5 years old and younger with more than 5 micrograms per deciliter of lead in their blood increased from 2.1 percent while Flint purchased Lake Huron water from the city of Detroit to 4 percent after the switch to the Flint River.
- The report also recommends that infant formula not be mixed with Flint tap water, that pregnant mothers not use city water, and that lead-clearing filters be distributed here.
- Areas of Flint with the highest lead levels, according to testing by Virginia Tech University, also showed the most drastic increases in elevated lead levels in children, rising from 2.5 percent to 6.3 percent.
- The study recommends the city declare a health advisory that could trigger additional resources from the federal government.

Findings from the study are expected to be discussed at a news conference scheduled for 3 p.m. today, Sept. 24, at Hurley.

In addition to lead researcher Dr. Mona Hanna-Attisha, representatives of the Greater Flint Health Coalition, Mott Children's Health Center, Hamilton Community Health Network and Genesee County Medical Society are also expected to speak about their concerns about the safety of Flint water.

The data from Flint children reveals an alarming increase in lead poisoning, said Hanna-Attisha, director of Hurley's pediatric residency program and an assistant professor in the Department of Pediatrics & Human Development at Michigan State University's College of Human Medicine.

The study used a database, built from blood tests collected from about 150 doctors and health care providers. It compares the lead levels in the blood of children from Jan. 1, 2013, until Sept. 15, 2013, to levels in samples collected from Jan. 1, 2015, until Sept.

15, 2015.

The city began using the Flint River as its drinking water source in April 2014, and testing by both the city and Virginia Tech have shown that lead is increasingly leaching into the city's water system.

City and state officials have said their own testing inside 169 homes in the city since the switch to river water have registered lead levels below the federal threshold of 15 parts per billion of lead.

Treated river water is 19 times more corrosive than Lake Huron water, according to Professor Marc Edwards of Virginia Tech, causing lead and lead solder in water transmission pipes and home plumbing to seep into the water supply.

Although there are measures that can be taken to reduce corrosiveness in water, including the use of phosphates, Flint had no such plan in place.

"This (higher blood lead levels in children) is exactly what you would expect to see when you put highly corrosive water into a city with so much lead plumbing and pipes," Edwards said today.

"If you look at the level of lead in Flint water, (the study is) perfectly consistent with (my) expectations."

Walling announced earlier this month that the city would speed up efforts to develop a corrosion control plan by the end of the year and has asked Gov. Rick Snyder for \$10 million to replace water service lines with lead or lead solder in them.

City and state officials have estimated 15,000 homes in Flint have service lines made with lead.

The Flint Journal-MLive could not reach Walling or Henderson for comment on the new study this morning.

On Wednesday, Sept. 23, the mayor said he would issue an advisory and promote ways to minimize residents' exposure to lead such as flushing pipes before drinking city water.

Hanna-Attisha and Dr. Lawrence Reynolds, president and chief executive officer of Mott Children's Health Center, said they met Walling, Henderson and Department of Public Works Director Howard Croft Monday, Sept. 21, and were told that a return to purchasing water from Detroit would bankrupt the city.

The doctors said they are issuing their recommendations, including an end to use of the Flint River as a water source, because the city has so far failed to act.

"It's our professional obligation to care for the children of Flint (and to tell parents) if we know something," Hanna-Attisha said. "Lead poisoning is irreversible. This is not what our community needs. You have to err on the side of caution (and) educate the public."

State Senate Minority Leader Jim Ananich, D-Flint, issued a statement today, calling the findings of the lead study "alarming."

"Our top priority has to be doing everything we can and finding every available resource to ensure access to safe water for Flint residents," Ananich's statement says. "I will be leading an effort to raise state, private and philanthropic resources to deliver filters and clean water into the community as quickly as possible."

Blood lead levels above 5 micrograms per deciliter are considered elevated by the Center for Disease Control and Prevention and the new study says increasing evidence shows no safe blood lead level.

Lead is a toxic metal that was used for many years in products found in and around homes and may cause health effects such as behavioral problems and learning disabilities, according to the U.S. Environmental Protection Agency.

Reynolds said today in addition to the cost of reconnecting Flint to Detroit water, city and state officials must consider the cost of distributing water with higher lead levels than necessary, including the potential for additional attention deficit hyperactivity disorder, lower IQs, and delinquent behavior.

"No amount of lead is good for human beings," he said. "We cannot predict which child will be affected by high lead levels (and) we have a ... risk we can prevent ...

"you can pay now or pay later," he said.

The city began using the Flint River as a water source for the first time in more than 50 years in April 2014 -- a decision made by state-appointed emergency manager Darnell Earley.

Former emergency manager Jerry Ambrose, who replaced Earley, has said returning Flint to the Detroit-supplied Lake Huron water would be cost-prohibitive, resulting in an increase of about 30 percent in water rates.

Walling has also opposed a short-term contract to buy water from Detroit.

http://www.mlive.com/news/flint/index.ssf/2015/09/doctors_health_officials_to_sp.html

Doctors to speak out today on lead in Flint water

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 24, 2015 at 12:40 PM, updated September 24, 2015 at 3:24 PM

FLINT, MI -- Representatives of several Flint medical institutions, including Hurley Medical Center and Mott Children's Health Center, say they will discuss their concerns regarding lead levels in the city's drinking water at a news conference today, Sept. 24.

Hurley said in a news release that it will host the groups at the 3 p.m. news conference and that the meeting will also include representatives of the Flint Health Coalition, Hamilton Community Health Network and Genesee County Medical Society.

The news conference comes one day after Mayor Dayne Walling told The Flint Journal-MLive that the city would issue a lead advisory in the wake of the Greater Flint Health Coalition urgently asking the city to take that step.

The Journal could not reach Walling or City Administrator Natasha Henderson for comment today.

Walling and other city officials met with representatives of the coalition this week, hearing their concerns about the safety of Flint water.

The coalition issued a statement saying "not enough was being done to alert the public to potential risks of consuming Flint city water that could lead to elevated levels of lead."

Researchers from Virginia Tech University reported this month that their testing of Flint water in homes shows a far-reaching problem with lead.

Ten percent of Flint homes tested by Virginia Tech had 25 parts per billion of lead or more, far more than the allowable level -- 15 ppb -- set in federal guidelines, according to the university researchers.

City and state officials have said their testing shows Flint's water supply meets all health and safety regulations, never rising above 11 ppb in more than 10 percent of homes during the last 16 months.

Data from the state Department of Environment Quality shows lead levels have spiked since the city began using the Flint River as its water source in April 2014 but remained within federal thresholds for lead.

http://www.mlive.com/news/flint/index.ssf/2015/09/flint_will_issue_lead_advisory.html

Flint to issue lead in water warning after push from doctors, health officials

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 24, 2015 at 5:50 AM, updated September 24, 2015 at 9:59 AM

FLINT, MI -- The city of Flint is expected to advise its water customers on ways to minimize exposure to lead in its tap water -- particularly for children -- after a group that includes doctors and health officials strongly suggested the step.

Flint Mayor Dayne Walling confirmed the move on Wednesday, Sept. 23, after The Flint Journal-MLive learned the Greater Flint Health Coalition approved a resolution two days prior urgently asking the city to issue the advisory.

Representatives of the coalition met privately with Walling and other city officials to express their concerns about the safety of Flint water, and issued a statement saying "not enough was being done to alert the public to potential risks of consuming Flint city water that could lead to elevated levels of lead."

Walling's statement said the city "will be issuing an advisory" on the matter "in cooperation with health partners promoting ways to minimize the exposure to lead such as flushing pipes when the water has been sitting." He did not specify when the advisory would be issued.

Walling, who earlier this month asked Gov. Rick Snyder for \$30 million for Flint's infrastructure, including \$10 million to replace lead service lines to homes, said in an email that he "will continue to pursue funding for a comprehensive healthy homes initiative that addresses lead in paint and pipes."

"We have to get the lead out of our community to eliminate the threat of childhood lead poisoning," the statement says. "I am extremely concerned to hear from doctors about any elevated blood lead levels in Flint's children."

The Journal could not immediately reach Walling for more information on the concerns expressed to him by doctors about lead.

Kirk D. Smith, president and chief executive officer of the Greater Flint Health Coalition, and state Senate Minority Leader Jim Ananich, the chairman of the group's board of directors, issued a statement to The Journal about the coalition's recommendation on issuing precautions.

"As a coalition of concerned physicians, health care professionals and county leaders, we are compelled to inform the public when there is a possible threat to their health so they can take appropriate precautions and actions to protect themselves and their families," the joint statement says.

"At our last meeting and in recent days we have heard from numerous physicians who shared strong concerns that not enough was being done to alert the public to potential risks of consuming Flint city water that could lead to elevated levels of lead."

A resolution approved by the nonprofit coalition's board of directors, which includes representatives of Flint area hospitals, universities, physicians and unions, comes after researchers from Virginia Tech University reported their testing here shows a far-reaching problem with lead in water.

Ten percent of Flint homes tested by Virginia Tech had 25 parts per billion of lead or more, far more than the allowable level -- 15 ppb -- set in federal guidelines, according to the university researchers.

City and state officials have said their testing shows Flint's water supply meets all health and safety regulations, never rising above 11 ppb in more than 10 percent of homes during the last 16 months, but data from the state Department of Environment Quality shows lead levels have spiked since the city began using the Flint River as its water source in April 2014.

At the urging of state and federal officials, the city announced three weeks ago that it would speed up the development of plans aimed at making Flint water less corrosive.

Professor Marc Edwards of Virginia Tech has said treated river water is currently far more corrosive than water the city had used for decades -- Lake Huron water that was treated and piped here by the city of Detroit.

Edwards has criticized the city and the state for not having developed a plan for reducing the corrosiveness of Flint's water because an estimated 15,000 homes in the city have lead or lead solder in service lines and plumbing, making the homes much more susceptible to lead leaching into water.

City Councilman Scott Kincaid, also a member of the GFHC, said he supported the organization's request for further action -- particularly after physicians raised concerns about how high lead levels could affect infants and young children.

"I'm supporting the resolution. I think we need to advise people that there is a potential concern," Kincaid said. "Lead isn't good for anybody, but the effect on infants" is especially disturbing.

Although the city has yet to issue its lead advisory, Walling's mention of allowing water to flush through pipes is the same advice given by Virginia Tech earlier this month.

Researchers at the university have also recommended that infants not be fed formula made with unfiltered Flint tap water and that residents who are not flushing water for five minutes before using it for drinking or cooking should use a filter certified to remove lead.

The Journal could not reach Dr. Lawrence Reynolds, president and CEO of Mott Children's Health Center, for comment Wednesday. Other coalition members said Reynolds led the push for additional, quick action by the city.

Lead is a toxic metal that was used for many years in products found in and around homes, according to the U.S. Environmental Protection Agency. Even at low levels, lead may cause health effects such as behavioral problems and learning disabilities.

Current regulations for lead in water began in 1992 and require a limited amount of testing to measure the degree to which lead leaches into tap water after flowing through lead service lines and lead solder in home plumbing.

Flint has struggled with its water quality since switching to the Flint River as its primary water source in April 2014. Previously, the city had purchased water through the city of Detroit, which got its water from Lake Huron.

Flint was required to step up its testing of water in homes after it shifted to the Flint River, which is intended to be a temporary move as the city and Genesee County are partners in building a new water pipeline to Lake Huron through a partnership called the Karegnondi Water Authority.

The city has been using -- and Walling and state emergency managers have supported continuing to use -- the Flint River as a stopgap water source until the KWA pipeline is expected to be completed in 2016.

In state testing of city water samples, Flint has stayed below the federal threshold for lead, with less than 10 percent of tap water samples exceeding 15 ppb.

Water systems can be required to take steps like making water less corrosive or replacing lead service lines if sampling shows such elevated lead levels.

But after the Virginia Tech testing showed lead was much more prevalent than Flint's testing showed, Edwards and U.S. Rep. Dan Kildee each raised doubts about the water testing by the city and DEQ.

Kildee said in a news release Sept. 21 that "the city, DEQ and (U.S. Environmental Protection Agency) have not adequately answered my questions on their testing methods to ensure the safety of Flint's water."

http://www.mlive.com/news/flint/index.ssf/2015/09/gofundme_page_created_by_virgi.html

GoFundMe page created by Virginia Tech researcher to buy filters for Flint residents

By Amanda Emery | aemery@mlive.com

The Flint Journal Follow on Twitter on September 23, 2015 at 5:00 AM, updated September 23, 2015 at 5:03 AM

FLINT, MI -- A Virginia Tech University researcher has started a GoFundMe campaign in an effort to purchase lead filters for Flint water customers in need.

Anurag Mantha, a graduate student at Virginia Tech, said he has been in charge of the Flint Water Study Group and the community outreach for the group. Mantha said his job has been to analyze water samples and call people with high levels of lead to tell them their water is unsafe to drink.

"So I have been calling people and they have been telling me that they couldn't afford to buy filters," Mantha said. "That's one of the options we give to the people who have high amounts of lead. We tell them to buy NSF (National Sanitation Foundation) certified filters and they said they couldn't afford to buy them because their water bills were so high already and it was just a financial burden on them."

Virginia Tech researchers have said their testing shows a serious problem with lead in Flint water including 10 percent of homes that had 25 parts per billion of lead or more -- far more than the allowable level -- 15 ppb -- set in federal guidelines.

Mantha said he approached Professor Marc Edwards, who is heading up the study in Flint, and said he wanted to start a GoFundMe campaign to purchase filters for Flint residents in need. He said the campaign's goal is set at \$25,000, but he isn't waiting to hit the goal to start helping residents out.

"Once we get things finalized we'll use the first \$1,000 that we raise and kick the campaign off in Flint," Mantha said. "So that hopefully people will see that the money they are donating is doing some good."

The first priority in the giveaway will be single mothers, Manth said. He then plans to contact the Concerned Pastors for Social Action to determine the residents who are most in need.

Mantha said the cost of one filter is roughly \$40 and he is working with companies to purchase the filters. The NSF filters will remove lead from the water, he said.

As of Tuesday, Sept. 23, the campaign had already raised \$985. One-hundred percent of the funds raised will be used to buy the NSF filters.

For more information on the GoFundMe campaign, [click here](#).

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
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To: Lee, Monica[Lee.Monica@epa.gov]
Cc: Daguillard, Robert[Daguillard.Robert@epa.gov]
From: Hull, George
Sent: Fri 9/25/2015 8:16:27 PM
Subject: FW: New Articles about Flint - Updated 2:32 PM

Follow up to our phone conversation about Flint, MI water. - George

From: Bassler, Rachel
Sent: Friday, September 25, 2015 3:40 PM
To: Hull, George
Subject: FW: New Articles about Flint - Updated 2:32 PM

From: Bassler, Rachel
Sent: Friday, September 25, 2015 2:33 PM
To: Hedman, Susan; Kaplan, Robert; Hyde, Tinka
Cc: Poy, Thomas; Fortin, Denise; Cassell, Peter; Beckmann, Ronna Erin; Deamer, Eileen; Kelley, Jeff
Subject: RE: New Articles about Flint - Updated 2:32 PM

New articles on Flint drinking water:

- Flint issues warning about lead in city's drinking water (Michigan Radio)
- Area doctors urge seniors, children, pregnant women to stop drinking Flint (Dispatch Times)
- Did This Michigan Town Poison Its Children? (US News and World Report)
- Lead contamination in water like 'living in a third-world country' (Fox Carolina)
- Flint officials issue lead advisory (Harold Current)

<http://michiganradio.org/post/flint-issues-warning-about-lead-citys-drinking-water#stream/0>

Flint issues warning about lead in city's drinking water

By STEVE CARMODY • 6 MINUTES AGO

Michigan Radio

The advisory comes a day after local hospital officials announced blood lead levels in young children in Flint have doubled, and in some cases tripled, since the city started getting its drinking water from the Flint River in April of 2014.

Mayor Dayne Walling says city residents should take steps to reduce their lead exposure.

The city is recommending Flint water users:

- Flush cold water pipes by running the water for approximately five minutes before use.
- Use only water from the cold water tap for drinking, cooking and especially for making baby formula
- Install a water filter that is NSF-certified for lead removal

The mayor says the city is also taking steps to address the problem, and plans to reduce corrosion in the city's drinking water.

Walling says the goal is to make Flint "lead-free."

“So that whatever our water source and situation is ... that we are providing a safe environment for all of Flint’s families ... especially our children,” says Walling.

But it is the source of the city’s drinking water that many critics say is the source of the problem.

Curt Guyette, with the ACLU, says city leaders’ insistence that Flint’s water is “clean and safe” while blaming lead pipes for the lead in the water is “double talk.” Guyette says it’s clear the corrosiveness of the Flint River is causing the lead pipes to break down.

“They are doing everything they can to try to not admit that,” says Guyette.

City, Genesee County and state officials say they are reviewing data collected by researchers from Virginia Tech.

The [Virginia Tech researchers](#) tested water samples collected from nearly 300 Flint homes. Many of the homes tested above the 15 parts per billion threshold.

Similar testing by the city and overseen by the state showed lower lead levels.

Officials says it’s that disagreement that’s causing some delay in coming up with a response.

“You need concrete data. And I’m going to be quite honest, there’s some conflicting data right now, in terms of the results that have been presented,” says Mark Valacak is the health officer with the Genesee County Health Department.

“As we move forward, we’ll have more data and be able to justify ... additional resources coming in to the community,” says Valacak.

Mayor Walling has asked the governor’s office for \$30 million to fix the system and help replace lead pipes.

The lead pipe problem is not confined to individual homes. City officials say 15,000 transmission lines connecting homes to city water mains are made with lead pipes. That’s about half of the city’s customers.

You can read an FAQ from the state about water lead levels [here](#).

<http://www.dispatchtimes.com/area-doctors-urge-seniors-children-pregnant-women-to-stop-drinking-flint/103934/>

Area doctors urge seniors, children, pregnant women to stop drinking Flint

BY NEWSMEDIA ON SEPTEMBER 25, 2015

Dispatch Times

They have advised senior citizens, children, and pregnant women to stop drinking *Flint* water right now or they could face irreversible damage.

Walling said the water source, whether the city continues to get water from the Flint River or go back to getting its water from Detroit, will continue to be a discussion.

The advisory was issued after researchers released findings of an increase of blood lead levels in Flint children.

But until the new system comes on-line in 2016, Flint is temporarily pulling water from the Flint River. This causes the treated water to leach lead from pipes and soldering. “We are very concerned and we will take steps to contain lead levels in the water”.

They said the levels of lead in certain neighborhoods have more than doubled since the city tapped its own water supply. About 4 percent of the later samples revealed elevated levels. In Flint’s highest risk ZIP codes, the change was even more surprising, she said – jumping from 2.5% of the children to 6.3%. Blood is drawn as part of routine lead-level testing, especially among children who are on Medicaid or are in high-risk areas. Newborns can experience not only slowed development, but slowed growth.

Residents said they are exhausted of hearing about what’s wrong with the water, they want to know when it’s going to be safe for everyone.

A group of volunteer researchers from Virginia Tech University have been doing ongoing work on the safety of Flint drinking water.

The city of Flint has issued a lead advisory for its residents.

State regulators quickly decried the study, calling concerns about Flint’s drinking water “near hysteria”.

What is to be done about this problem remains to be seen.

The Genesee County Medical Society Board of Directors approved a resolution Tuesday,

September 25, encouraging breast feeding, advising no use of Flint tap water by infants who are fed formula, and encouraging the city to end its use of the Flint River as a water source "as soon as is practicable". The mayor is asking the state for \$10 million in funds to replace lead water service lines.

<http://www.usnews.com/news/articles/2015/09/25/flint-michigan-children-show-high-levels-of-lead-in-blood>

US News and World Report

Did This Michigan Town Poison Its Children?

Children in Flint, Michigan are showing high levels of blood lead.

Associated Press Sept. 25, 2015 | 8:46 a.m. EDT

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FLINT, Mich. (AP) — Some doctors urged Flint on Thursday to stop using the Flint River for water after finding high levels of lead in the blood of children, an extraordinary health warning in an ongoing controversy over the city's water supply.

"It's our professional obligation to care for the children of Flint if we know something," said the lead researcher, Dr. Mona Hanna-Attisha of Hurley Medical Center in Flint. "Lead poisoning is irreversible. This is not what our community needs. You have to err on the side of caution (and) educate the public."

There is no dispute that water drawn from the Flint River since 2014 is agitating and releasing lead in old pipes and service lines in thousands of homes. State regulators insist the water is safe, although they're urging anyone with concerns to have their water tested for free.

Hanna-Attisha said she looked at 1,746 test results from Flint children this year, compared to earlier results when Flint used Lake Huron as its water source. The percentage of kids with above-average lead levels had nearly doubled, according to the study. In certain areas, it tripled.

The study said Flint should stop using the Flint River "as soon as possible." Flint plans to switch to Lake Huron water again in 2016 when a pipeline is completed.

"No amount of lead is good for human beings. ... You can pay now or pay later," said Dr.

Lawrence Reynolds, president and chief executive officer of Mott Children's Health Center, who appeared at a news conference with Hanna-Attisha.

State regulators quickly responded. Brad Wurfel, spokesman at the Department of Environmental Quality, said the water controversy is becoming "near-hysteria."

"I wouldn't call them irresponsible. I would call them unfortunate," Wurfel said of the doctors' comments.

"Flint's drinking water is safe in that it's meeting state and federal standards," he said. "The system has an aging portion that needs to be addressed. They haven't had meaningful maintenance for four decades or more."

The state Department of Health and Human Services hasn't found the same results in its own work, spokeswoman Geralyn Lasher said.

"Our experts want a better sense of how they got there," she said. "The data that we have is a much larger set of data. ... We're not seeing what those numbers look like."

<http://www.foxcarolina.com/story/30113032/lead-contamination-in-water-like-living-in-a-third-world-country>

Lead contamination in water like 'living in a third-world country'

Posted: Sep 24, 2015 11:39 PM CDT Updated: Sep 24, 2015 11:39 PM CDT

Posted By Lauren Chapman

By Gino Vicci, WNEM TV5 Reporter

Fox Carolina

FLINT, MI (WNEM) -

The lead in a city water supply is at levels so high, it's being called a crisis.

"It kind of makes me feel like I'm living in a third world country," said Flint resident Maggie Kagen.

People in Flint have complained about the taste of their water since the city stopped buying it

from Detroit and tapped the Flint River instead.

"Medically... this is unacceptable," said Dr. Mona Hanna-Attisha, Hurley Medical Center.

To say the city of Flint has problems with its drinking water, according to residents, would be an understatement.

"It's getting ridiculous... I'm paying for something I can't use," Kagen said.

Kagen is a single mother of five who feels the state of Flint's water supply is a health crisis. And now a doctor from Hurley Medical Center is demanding it be addressed immediately.

"It's something that's needed to be said.. it's nothing new," Hanna-Attisha said.

What is new is the presence of lead in the city's drinking water.

"Because this is something that is preventable, and this is something that is causing lifelong problems," Hanna-Attisha said.

At a news conference on Thursday at Hurley Medical Center, doctors, the Genesee County Health Department and experts urged expectant mothers and new mothers of infants to not drink unfiltered tap water or use it to mix baby formula.

They said the levels of lead in certain neighborhoods have more than doubled since the city tapped its own water supply.

Residents said they are tired of hearing about what's wrong with the water, they want to know when it's going to be safe for everyone.

"You can keep saying it's a problem, it's a problem, but if you don't come up with a solution, it doesn't make sense," said Cynthia Howell, a community advocate.

Howell is one of those residents who says enough is enough – it's time for a solution. One proposed solution at Thursday's news conference: switch the water supply back to Detroit.

Flint Mayor Dayne Walling said switching the water supply still doesn't address the city's aging infrastructure.

"We have to work long term get those lines replaced and eliminate this threat to childhood lead poisoning," Walling said.

Residents said they don't want to ignore the long-term needs of the city, but they wonder if there will be any relief in the short term.

<http://www.heraldcurent.com/flint-officials-issue-lead-advisory/6056/>

Flint officials issue lead advisory

Herald Current

SEPTEMBER 25, 2015 BY ROSALIND GILMORE IN HEALTH

This causes the treated water to leach lead from pipes and soldering. “It has too much salt in it, and there was no plan to control the corrosion when the city began using the river in April 2014 ” . Until the latest review, state data show that the percent of children with elevated blood lead levels have been falling for years.

The action comes in the same week that several health groups and physicians urged families not to use Flint tap water for infant formula because of rising levels of lead and a Hurley Medical Center doctor released a study showing increasing incidents of elevated blood lead levels in *Flint* children. “We are very concerned and we will take steps to contain lead levels in the water”.

It opted instead to pull from the Karegnondi Water Authority, which is building a system to supply Genesee County with water pulled from Lake Huron.

The consequences of increased lead exposure, especially for younger children, can be dire. Areas that yielded the highest blood levels had an increase in abnormal samples from 2.5 percent to 6.3 percent. Symptoms can include developmental delays, irritability and sluggishness, as well as gastrointestinal problems like poor appetite, abdominal pain, and vomiting.

Residents said they are exhausted of hearing about what’s wrong with the water, they want to know when it’s going to be safe for everyone.

Water service lines installed before 1986 are more prone to lead issue due to the materials used in homes during that time, the city said in a press release.

A group of volunteer researchers from Virginia Tech University have been doing ongoing work on the safety of Flint drinking water.

Walling said earlier this week that city officials have been developing an advisory about lead dangers.

What is to be done about this problem remains to be seen.

Walling requested \$30 million in funding from the state for water infrastructure assistance.

The city administrator, Natasha Henderson, said city officials are working with the Department of Environmental Quality to get corrosion control in place in Flint’s water system.

From: Bassler, Rachel
Sent: Friday, September 25, 2015 11:32 AM
To: Hedman, Susan; Kaplan, Robert; Hyde, Tinka
Cc: Poy, Thomas; Fortin, Denise; Cassell, Peter; Beckmann, Ronna Erin; Deamer, Eileen; Kelley, Jeff
Subject: New Articles about Flint

Hi,

Filling in for Jeff. Below are clips from Flint:

- Kids In Michigan May Be Drinking Water That's Tainted With Lead (Think Progress)
- Area doctors urge seniors, children, pregnant women to stop drinking Flint water now (NBC 25 News)
- Did Flint, Michigan, Just Lead Poison Its Children? Doctors Think So. (Daily Beast)

<http://thinkprogress.org/health/2015/09/25/3705650/flint-drinking-water-lead/>

Kids In Michigan May Be Drinking Water That's Tainted With Lead (Think Progress)

BY **SAM P.K. COLLINS** SEP 25, 2015 10:59AM

When Flint, Michigan officials changed the source of drinking water from Lake Huron to Lake Flint last spring, they assured residents that safety wouldn't be a concern, even as stories about changes in color, smell of chemicals, and sicknesses circulated through the state and national media outlets.

New research, however, has confirmed the worst, linking the switch in drinking water to a significant increase in the levels of lead found in children's bloodstream. The study, conducted by Dr. Mona Hanna-Attisha of the Pediatric Residency Program Hurley Medical Center, found elevated lead blood levels — surpassing 5 micrograms per deciliter — in 4 percent of Flint youngsters, which is 2 percentage points higher than what they recorded last year.

Researchers drew blood samples from more than 1,700 children five years of age and younger and analyzed two groups of samples: those taken before and after the switch. They also collected data from children living in the neighboring Genesee County, which still gets its water from the Detroit water system. Those test results found no changes in lead/blood levels among children living in the Genesee area.

Representatives of the Greater Flint Health Coalition, a group dedicated to improving the quality of the community health care system, released a statement calling on local lawmakers to issue an official warning to residents about the dangers of the drinking water.

“The findings released today are alarming. Our top priority has to be doing everything we can and finding every available resource to ensure access to safe water for Flint residents,” Michigan State Senate Minority Leader Jim Ananich (D-Flint) said in a statement. “I will be leading an effort to raise state, private and philanthropic resources to deliver filters and clean water into the community as quickly as possible. We must act with urgency to protect Flint residents, especially those most vulnerable to the negative health impacts of lead: children,” Ananich, also chair of the Greater Flint Health Coalition, added.

State regulators quickly decried the study, calling concerns about Flint's drinking water “near hysteria.” Though Brad Wurfel, spokesperson at the Department of Environmental Quality, told U.S. News the drinking water met state and federal standards, he acknowledged that the aging water pipes haven't been maintained in more than 40 years.

The recent findings build on research previously conducted by scientists at Virginia Tech (VT) in August during which they collected and analyzed lead levels in 300 Flint homes. The researchers said the water in that area was five times more corrosive than other liquid sources in surrounding areas. VT Civil and environmental engineering professor Marc Edwards cited the study at a press conference earlier this month where he warned Flint residents that the water posed a significant danger to public health, unless it's properly filtered.

“This [problem with lead] is occurring because the water is too corrosive,” Edwards said. “It has too much salt in it, and there was no plan to control the corrosion when the city began using the river in April 2014. Flint is the only city in American that I’m aware of that does not have a corrosion-control plan in place to stop this kind of problem.”

Once lead enters the bloodstream via inhalation of dust, ingestion of food, drinking of water that flows through lead pipes, or hand to mouth activity, it travels to the nerves, kidneys, brain, muscles, and heart. In children and adults, the lead can be stored in the bones and teeth for decades before flowing into the bloodstream again and further damaging organs.

Long-term exposure to lead can cause blood anemia, colic, kidney damage, muscle weakness, brain damage, and death. Left unabated, lead in the bloodstream also affects reaction time, memory, and retention of new information. Hanna-Atisha’s report said evidence supported the likelihood of decreased IQ among youngsters with lead/blood levels as low as 4 micrograms per deciliter.

The media shed light on the perils of lead exposure earlier this year in the days after Freddie Gray died under mysterious circumstances while in police custody. In 2008, Gray’s family filed a lawsuit against Stanley Rochkind, the owner of a home they rented for four years, arguing that the children’s exposure to the substance played a significant part in their educational, behavioral and medical problems — including attention-deficit hyperactivity disorder. The residence in question didn’t undergo renovations when Baltimore City officials banned the use of lead-based paint in the 1970s.

On Friday, Hanna-Attisha made an appeal to Michigan lawmakers to prevent similar folly, pointing to the long-term public health effects of lead exposure. She said the issue could no longer be ignored. “It’s our professional obligation to care for the children of Flint if we know something,” Hanna-Attisha told the Associated Press. “Lead poisoning is irreversible. This is not what our community needs. You have to err on the side of caution [and] educate the public.”

<http://nbc25news.com/news/local/area-doctors-send-out-warning-about-drinking-flint-water/>

Area doctors urge seniors, children, pregnant women to stop drinking Flint water now

BY NICKY ZIZAZA THURSDAY, SEPTEMBER 24TH 2015

FLINT — Today at Hurley Medical Center, doctors warned the public that lead levels in Flint water are too high and many residents should stop drinking it immediately.

Hurley did their own study of Flint water. They have advised senior citizens, children, and pregnant women to stop drinking Flint water right now or they could face irreversible damage. This damage could include memory loss or lowered IQ.

They found double the acceptable amount of lead in Flint water. They tested the specific zip codes done in the recent Virginia Tech study and found excessive blood lead levels in children and babies.

This will affect them not only now, but for decades to come, doctors say. They are advising people to use lead filters.

The head of the Genesee County Health Department, Mark Valacak, said that just looking at children won't identify any of the issues. A blood test is the only way to know for certain.

Dr. Mona Hanna-Attisha, who ran the study, says, "This is not what our community needs."

The Virginia Tech study showed that Flint River water was specifically causing lead in old pipes to be released.

A gofundme account was recently set up by the Virginia Tech group, with the intent of buying the citizens of Flint filters that can remove the lead from the water.

Congressman Dan Kildee issued the following statement:

"Immediate action needs to be taken by the State of Michigan to ensure that relief is provided to people who are concerned about lead levels in their water. Today as part of my ongoing efforts, I talked with the EPA Region 5 Administrator about the State of Michigan providing emergency assistance, including lead-clearing filters and bottled water, until a more permanent solution can be determined.

"This new study by the medical community also raises additional doubts about prior water testing done by the DEQ and EPA that stated the water was in compliance with federal law. I have been completely unsatisfied with their answers to my questions regarding their testing methodology, which is why I have called for additional immediate independent and scientific testing to be done."

Senate Minority Leader Jim Ananich issued the following statement:

"The findings released today are alarming. Our top priority has to be doing everything we can and finding every available resource to ensure access to safe water for Flint residents. I will be leading an effort to raise state, private and philanthropic resources to deliver filters and clean water into the community as quickly as possible.

We must act with urgency to protect Flint residents, especially those most vulnerable to the negative health impacts of lead: children. Anyone with concerns about their water should visit flintwaterinfo.com and contact their physician or the Genesee County Health Department immediately."

<http://www.thedailybeast.com/articles/2015/09/24/did-flint-michigan-just-lead-poison-its-children-doctors-think-so.html>

Did Flint, Michigan, Just Lead Poison Its Children? Doctors Think So.

By: Russell Saunders 09.24.15 6:10 PM ET

Since the city switched from Lake Huron to the Flint River as a water source, its children's lead levels have doubled.

According to researchers in Flint, Michigan, blood tests have revealed a distressing conclusion—the tap water residents are drinking is causing elevated lead levels in the city's children.

A new study headed by Dr. Mona Hanna-Attisha, a researcher and director of the pediatric residency program at Hurley Medical Center, compared blood tests taken over a span of months in 2013 with samples taken over a similar span this year. During the time between, the city of Flint changed the source of its drinking water from Lake Huron to treated water from the Flint River.

What they found by comparing the samples is that the percentage of children with lead levels over the acceptable limit nearly doubled after the change. In 2013, about 2 percent of tests had results over 5 micrograms per deciliter (the current “safe” cut-off level, above which steps to identify and mitigate the source of lead exposure are recommended). About 4 percent of the later samples revealed elevated levels. Areas that yielded the highest blood levels had an increase in abnormal samples from 2.5 percent to 6.3 percent.

The consequences of increased lead exposure, especially for younger children, can be dire. Symptoms can include developmental delays, irritability and sluggishness, as well as gastrointestinal problems like poor appetite, abdominal pain, and vomiting. Newborns can experience not only slowed development, but slowed growth.

The new study recommends that Flint city water not be used to mix infant formula, or consumed by pregnant women.

The reason the new water source may be contributing to these elevated lead levels does not have to do with the lead content of the river water itself, but rather its effects on the lead pipes that approximately 15,000 homes in the city are reported to have.

A group of volunteer researchers from Virginia Tech University have been doing ongoing work on the safety of Flint drinking water. Their lead investigator, 2007 MacArthur fellow Dr. Marc Edwards, has noted that treated Flint River water is 19 times as corrosive as water from Lake Huron. This causes the treated water to leach lead from pipes and soldering.

In a separate report, the Virginia Tech team analyzed Flint city water directly and found that 42

percent of the 120 samples collected had lead levels greater than 5 parts per billion, and 20 percent had levels about 15 ppb, the cut-off at which the Environmental Protection Agency requires action.

What is to be done about this problem remains to be seen. Dr. Hanna-Attisha has said that city officials told her a return to Lake Huron water is not financially feasible for Flint. The mayor is asking the state for \$10 million in funds to replace lead water service lines.

From: Kelley, Jeff
Sent: Thursday, September 24, 2015 4:39 PM
To: Bassler, Rachel
Subject: Fwd: Several new articles from the Flint Journal

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: [312-353-1159](tel:312-353-1159)

----- Forwarded message -----

From: "**Kelley, Jeff**" <kelley.jeff@epa.gov>
Date: Thu, Sep 24, 2015 at 2:36 PM -0700
Subject: Several new articles from the Flint Journal
To: "Susan Hedman" <Hedman.Susan@epa.gov>, "Robert Kaplan" <kaplan.robert@epa.gov>, "Hyde, Tinka" <hyde.tinka@epa.gov>
Cc: "Poy, Thomas" <poy.thomas@epa.gov>, "Fortin, Denise" <Fortin.Denise@epa.gov>, "Cassell, Peter" <cassell.peter@epa.gov>, "Ronna Beckmann" <Beckmann.Ronna@epa.gov>, "Eileen Deamer" <Deamer.Eileen@epa.gov>

A bunch of clips from the Flint Journal ... all apparently posted today:

- City must abandon Flint River as drinking water source amid lead crisis
- Elevated lead found in more Flint kids after water switch, study finds
- Doctors to speak out today on lead in Flint water
- Flint to issue lead in water warning after push from doctors, health officials
- GoFundMe page created by Virginia Tech researcher to buy filters for Flint residents

http://www.mlive.com/opinion/flint/index.ssf/2015/09/abandon_flint_river_for_drinki.html

City must abandon Flint River as drinking water source amid lead crisis

The following is an opinion of The Flint Journal Editorial Board.

It's time to abandon the Flint River and go back to Lake Huron for Flint's drinking water.

And it's up to Gov. Rick Snyder to do it.

Flint residents were told they wouldn't notice any difference when officials made the switch April 25, 2014, after nearly 50 years of getting water from the Detroit pipeline.

"The water quality speaks for itself," Flint Mayor Dayne Walling said the day of the switch.

Today, that quality is still speaking and it's sounding worse by the day.

A switch that was made to save the cash-strapped city money has turned into a dangerous waiting game while crews build a new pipeline to Lake Huron.

But with the new pipeline still a year away from completion, Flint residents can no longer be asked to drink water that's safety cannot be guaranteed.

Elevated levels of the chemical TTHM in the water have segued into reports of elevated lead in the water. More Flint infants and children are being found with elevated levels of lead in their blood since the city switched to using the Flint River as its water source, according to a study from a Hurley Children's Hospital doctor.

While scientists debate test results, residents in one of the poorest cities in America are forced to either buy bottled water or take their chances with a system they're no longer confident is even safe.

This switch was made while Flint was under control of a state-appointed emergency manager, and we call upon the governor to make this right for Flint citizens by brokering a return to Detroit water that won't bankrupt the city of Flint.

Flint is in a crisis that was created in no small part by Snyder's hand-picked emergency manager and it is Snyder's job to fix this mess.

Officials have said that returning to Detroit water for the short term is not fiscally sound but that is not enough to justify staying with Flint River water. Flint is in the midst of a full-blown water emergency right now and it is incomprehensible that a solution cannot be found with our fellow Michiganders to deliver healthy water.

There is a lake full of healthy drinking water just an hour away and the pipes already in place to bring it here.

Clean water can be ours again.

Make the switch — now — before it's too late.

http://www.mlive.com/news/flint/index.ssf/2015/09/study_shows_twice_as_many_flin.html

Elevated lead found in more Flint kids after water switch, study finds

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 24, 2015 at 2:09 PM, updated September 24, 2015 at 4:31 PM

FLINT, MI -- More Flint infants and children are being found with elevated levels of lead in their blood since the city switched to using the Flint River as its water source, according to a new study by a Hurley Medical Center doctor.

The data show that the percentage of Flint infants and children with above average lead levels has nearly doubled citywide, and has nearly tripled among children in "high risk" areas of lead exposure, according to the study.

The research was based on blood samples from more than 1,700 children living in the

city, and underscores Flint's struggles with water quality since switching from Lake Huron water in April 2014. Results of the study were delivered to Flint Mayor Dayne Walling and City Administrator Natasha Henderson this week.

The study includes a recommendation that the city end its use of the Flint River as its drinking water source "as soon as possible."

Among its key findings and recommendations:

- The percentage of children 5 years old and younger with more than 5 micrograms per deciliter of lead in their blood increased from 2.1 percent while Flint purchased Lake Huron water from the city of Detroit to 4 percent after the switch to the Flint River.
- The report also recommends that infant formula not be mixed with Flint tap water, that pregnant mothers not use city water, and that lead-clearing filters be distributed here.
- Areas of Flint with the highest lead levels, according to testing by Virginia Tech University, also showed the most drastic increases in elevated lead levels in children, rising from 2.5 percent to 6.3 percent.
- The study recommends the city declare a health advisory that could trigger additional resources from the federal government.

Findings from the study are expected to be discussed at a news conference scheduled for 3 p.m. today, Sept. 24, at Hurley.

In addition to lead researcher Dr. Mona Hanna-Attisha, representatives of the Greater Flint Health Coalition, Mott Children's Health Center, Hamilton Community Health Network and Genesee County Medical Society are also expected to speak about their

concerns about the safety of Flint water.

The data from Flint children reveals an alarming increase in lead poisoning, said Hanna-Attisha, director of Hurley's pediatric residency program and an assistant professor in the Department of Pediatrics & Human Development at Michigan State University's College of Human Medicine.

The study used a database, built from blood tests collected from about 150 doctors and health care providers. It compares the lead levels in the blood of children from Jan. 1, 2013, until Sept. 15, 2013, to levels in samples collected from Jan. 1, 2015, until Sept. 15, 2015.

The city began using the Flint River as its drinking water source in April 2014, and testing by both the city and Virginia Tech have shown that lead is increasingly leaching into the city's water system.

City and state officials have said their own testing inside 169 homes in the city since the switch to river water have registered lead levels below the federal threshold of 15 parts per billion of lead.

Treated river water is 19 times more corrosive than Lake Huron water, according to Professor Marc Edwards of Virginia Tech, causing lead and lead solder in water transmission pipes and home plumbing to seep into the water supply.

Although there are measures that can be taken to reduce corrosiveness in water, including the use of phosphates, Flint had no such plan in place.

"This (higher blood lead levels in children) is exactly what you would expect to see when you put highly corrosive water into a city with so much lead plumbing and pipes," Edwards said today.

"If you look at the level of lead in Flint water, (the study is) perfectly consistent with (my) expectations."

Walling announced earlier this month that the city would speed up efforts to develop a corrosion control plan by the end of the year and has asked Gov. Rick Snyder for \$10 million to replace water service lines with lead or lead solder in them.

City and state officials have estimated 15,000 homes in Flint have service lines made with lead.

The Flint Journal-MLive could not reach Walling or Henderson for comment on the new study this morning.

On Wednesday, Sept. 23, the mayor said he would issue an advisory and promote ways to minimize residents' exposure to lead such as flushing pipes before drinking city water.

Hanna-Attisha and Dr. Lawrence Reynolds, president and chief executive officer of Mott Children's Health Center, said they met Walling, Henderson and Department of Public Works Director Howard Croft Monday, Sept. 21, and were told that a return to purchasing water from Detroit would bankrupt the city.

The doctors said they are issuing their recommendations, including an end to use of the Flint River as a water source, because the city has so far failed to act.

"It's our professional obligation to care for the children of Flint (and to tell parents) if we know something," Hanna-Attisha said. "Lead poisoning is irreversible. This is not what our community needs. You have to err on the side of caution (and) educate the public."

State Senate Minority Leader Jim Ananich, D-Flint, issued a statement today, calling the findings of the lead study "alarming."

"Our top priority has to be doing everything we can and finding every available resource to ensure access to safe water for Flint residents," Ananich's statement says. "I will be leading an effort to raise state, private and philanthropic resources to deliver filters and clean water into the community as quickly as possible."

Blood lead levels above 5 micrograms per deciliter are considered elevated by the Center for Disease Control and Prevention and the new study says increasing evidence shows no safe blood lead level.

Lead is a toxic metal that was used for many years in products found in and around homes and may cause health effects such as behavioral problems and learning disabilities, according to the U.S. Environmental Protection Agency.

Reynolds said today in addition to the cost of reconnecting Flint to Detroit water, city and state officials must consider the cost of distributing water with higher lead levels than necessary, including the potential for additional attention deficit hyperactivity disorder, lower IQs, and delinquent behavior.

"No amount of lead is good for human beings," he said. "We cannot predict which child will be affected by high lead levels (and) we have a ... risk we can prevent ...

"you can pay now or pay later," he said.

The city began using the Flint River as a water source for the first time in more than 50 years in April 2014 -- a decision made by state-appointed emergency manager Darnell Earley.

Former emergency manager Jerry Ambrose, who replaced Earley, has said returning Flint to the Detroit-supplied Lake Huron water would be cost-prohibitive, resulting in an increase of about 30 percent in water rates.

Walling has also opposed a short-term contract to buy water from Detroit.

http://www.mlive.com/news/flint/index.ssf/2015/09/doctors_health_officials_to_sp.html

Doctors to speak out today on lead in Flint water

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 24, 2015 at 12:40 PM, updated September 24, 2015 at 3:24 PM

FLINT, MI -- Representatives of several Flint medical institutions, including Hurley Medical Center and Mott Children's Health Center, say they will discuss their concerns regarding lead levels in the city's drinking water at a news conference today, Sept. 24.

Hurley said in a news release that it will host the groups at the 3 p.m. news conference and that the meeting will also include representatives of the Flint Health Coalition, Hamilton Community Health Network and Genesee County Medical Society.

The news conference comes one day after Mayor Dayne Walling told The Flint Journal-MLive that the city would issue a lead advisory in the wake of the Greater Flint Health Coalition urgently asking the city to take that step.

The Journal could not reach Walling or City Administrator Natasha Henderson for comment today.

Walling and other city officials met with representatives of the coalition this week, hearing their concerns about the safety of Flint water.

The coalition issued a statement saying "not enough was being done to alert the public to potential risks of consuming Flint city water that could lead to elevated levels of lead."

Researchers from Virginia Tech University reported this month that their testing of Flint water in homes shows a far-reaching problem with lead.

Ten percent of Flint homes tested by Virginia Tech had 25 parts per billion of lead or more, far more than the allowable level -- 15 ppb -- set in federal guidelines, according to the university researchers.

City and state officials have said their testing shows Flint's water supply meets all health and safety regulations, never rising above 11 ppb in more than 10 percent of homes during the last 16 months.

Data from the state Department of Environment Quality shows lead levels have spiked since the city began using the Flint River as its water source in April 2014 but remained within federal thresholds for lead.

http://www.mlive.com/news/flint/index.ssf/2015/09/flint_will_issue_lead_advisory.html

Flint to issue lead in water warning after push from doctors, health officials

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 24, 2015 at 5:50 AM, updated September 24, 2015 at 9:59 AM

FLINT, MI -- The city of Flint is expected to advise its water customers on ways to minimize exposure to lead in its tap water -- particularly for children -- after a group that includes doctors and health officials strongly suggested the step.

Flint Mayor Dayne Walling confirmed the move on Wednesday, Sept. 23, after The Flint Journal-MLive learned the Greater Flint Health Coalition approved a resolution two days prior urgently asking the city to issue the advisory.

Representatives of the coalition met privately with Walling and other city officials to express their concerns about the safety of Flint water, and issued a statement saying "not enough was being done to alert the public to potential risks of consuming Flint city water that could lead to elevated levels of lead."

Walling's statement said the city "will be issuing an advisory" on the matter "in cooperation with health partners promoting ways to minimize the exposure to lead such as flushing pipes when the water has been sitting." He did not specify when the advisory would be issued.

Walling, who earlier this month asked Gov. Rick Snyder for \$30 million for Flint's infrastructure, including \$10 million to replace lead service lines to homes, said in an email that he "will continue to pursue funding for a comprehensive healthy homes initiative that addresses lead in paint and pipes."

"We have to get the lead out of our community to eliminate the threat of childhood lead poisoning," the statement says. "I am extremely concerned to hear from doctors about any elevated blood lead levels in Flint's children."

The Journal could not immediately reach Walling for more information on the concerns expressed to him by doctors about lead.

Kirk D. Smith, president and chief executive officer of the Greater Flint Health Coalition, and state Senate Minority Leader Jim Ananich, the chairman of the group's board of directors, issued a statement to The Journal about the coalition's recommendation on issuing precautions.

"As a coalition of concerned physicians, health care professionals and county leaders, we are compelled to inform the public when there is a possible threat to their health so they can take appropriate precautions and actions to protect themselves and their families," the joint statement says.

"At our last meeting and in recent days we have heard from numerous physicians who shared strong concerns that not enough was being done to alert the public to potential risks of consuming Flint city water that could lead to elevated levels of lead."

A resolution approved by the nonprofit coalition's board of directors, which includes representatives of Flint area hospitals, universities, physicians and unions, comes after researchers from Virginia Tech University reported their testing here shows a far-reaching problem with lead in water.

Ten percent of Flint homes tested by Virginia Tech had 25 parts per billion of lead or more, far more than the allowable level -- 15 ppb -- set in federal guidelines, according to the university researchers.

City and state officials have said their testing shows Flint's water supply meets all health and safety regulations, never rising above 11 ppb in more than 10 percent of homes during the last 16 months, but data from the state Department of Environment Quality shows lead levels have spiked since the city began using the Flint River as its water source in April 2014.

At the urging of state and federal officials, the city announced three weeks ago that it would speed up the development of plans aimed at making Flint water less corrosive.

Professor Marc Edwards of Virginia Tech has said treated river water is currently far more corrosive than water the city had used for decades -- Lake Huron water that was treated and piped here by the city of Detroit.

Edwards has criticized the city and the state for not having developed a plan for reducing the corrosiveness of Flint's water because an estimated 15,000 homes in the city have lead or lead solder in service lines and plumbing, making the homes much more susceptible to lead leaching into water.

City Councilman Scott Kincaid, also a member of the GFHC, said he supported the organization's request for further action -- particularly after physicians raised concerns about how high lead levels could affect infants and young children.

"I'm supporting the resolution. I think we need to advise people that there is a potential concern," Kincaid said. "Lead isn't good for anybody, but the effect on infants" is especially disturbing.

Although the city has yet to issue its lead advisory, Walling's mention of allowing water to flush through pipes is the same advice given by Virginia Tech earlier this month.

Researchers at the university have also recommended that infants not be fed formula made with unfiltered Flint tap water and that residents who are not flushing water for five minutes before using it for drinking or cooking should use a filter certified to remove lead.

The Journal could not reach Dr. Lawrence Reynolds, president and CEO of Mott Children's Health Center, for comment Wednesday. Other coalition members said Reynolds led the push for additional, quick action by the city.

Lead is a toxic metal that was used for many years in products found in and around homes, according to the U.S. Environmental Protection Agency. Even at low levels, lead may cause health effects such as behavioral problems and learning disabilities.

Current regulations for lead in water began in 1992 and require a limited amount of testing to measure the degree to which lead leaches into tap water after flowing through lead service lines and lead solder in home plumbing.

Flint has struggled with its water quality since switching to the Flint River as its primary water source in April 2014. Previously, the city had purchased water through the city of Detroit, which got its water from Lake Huron.

Flint was required to step up its testing of water in homes after it shifted to the Flint River, which is intended to be a temporary move as the city and Genesee County are partners in building a new water pipeline to Lake Huron through a partnership called the Karegnondi Water Authority.

The city has been using -- and Walling and state emergency managers have supported continuing to use -- the Flint River as a stopgap water source until the KWA pipeline is expected to be completed in 2016.

In state testing of city water samples, Flint has stayed below the federal threshold for lead, with less than 10 percent of tap water samples exceeding 15 ppb.

Water systems can be required to take steps like making water less corrosive or replacing lead service lines if sampling shows such elevated lead levels.

But after the Virginia Tech testing showed lead was much more prevalent than Flint's testing showed, Edwards and U.S. Rep. Dan Kildee each raised doubts about the water testing by the city and DEQ.

Kildee said in a news release Sept. 21 that "the city, DEQ and (U.S. Environmental Protection Agency) have not adequately answered my questions on their testing methods to ensure the safety of Flint's water."

http://www.mlive.com/news/flint/index.ssf/2015/09/gofundme_page_created_by_virgi.html

GoFundMe page created by Virginia Tech researcher to buy filters for Flint residents

By Amanda Emery | aemery@mlive.com

The Flint Journal Follow on Twitter on September 23, 2015 at 5:00 AM, updated September 23, 2015 at 5:03 AM

FLINT, MI -- A Virginia Tech University researcher has started a GoFundMe campaign in an effort to purchase lead filters for Flint water customers in need.

Anurag Mantha, a graduate student at Virginia Tech, said he has been in charge of the Flint Water Study Group and the community outreach for the group. Mantha said his job has been to analyze water samples and call people with high levels of lead to tell them their water is unsafe to drink.

"So I have been calling people and they have been telling me that they couldn't afford to buy filters," Mantha said. "That's one of the options we give to the people who have high amounts of lead. We tell them to buy NSF (National Sanitation Foundation) certified filters and they said they couldn't afford to buy them because their water bills were so high already and it was just a financial burden on them."

Virginia Tech researchers have said their testing shows a serious problem with lead in Flint water including 10 percent of homes that had 25 parts per billion of lead or more -- far more than the allowable level -- 15 ppb -- set in federal guidelines.

Mantha said he approached Professor Marc Edwards, who is heading up the study in Flint, and said he wanted to start a GoFundMe campaign to purchase filters for Flint residents in need. He said the campaign's goal is set at \$25,000, but he isn't waiting to hit the goal to start helping residents out.

"Once we get things finalized we'll use the first \$1,000 that we raise and kick the campaign off in Flint," Mantha said. "So that hopefully people will see that the money they are donating is doing some good."

The first priority in the giveaway will be single mothers, Manth said. He then plans to contact the Concerned Pastors for Social Action to determine the residents who are most in need.

Mantha said the cost of one filter is roughly \$40 and he is working with companies to purchase the filters. The NSF filters will remove lead from the water, he said.

As of Tuesday, Sept. 23, the campaign had already raised \$985. One-hundred percent of the funds raised will be used to buy the NSF filters.

For more information on the GoFundMe campaign, [click here](#).

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

KEY POINTS:

1) FLINT HAS LOTS OF LEAD PIPE, NO CORROSION CONTROL TREATMENT, AND HAS HAD NO LEGITIMATE LCR TESTING FOR AT LEAST A YEAR.

2) AMONGST LOW INCOME INFANTS, BREAST FEEDING RATES ARE LOWER, AND FORMULA USE IS HIGHER. MANY FLINTS RESIDENTS CANNOT AFFORD TO FLUSH DUE TO HIGH WATER RATES. THEY CANNOT AFFORD BOTTLED WATER. THIS IS AN UNPRECEDENTED SITUATION AND EPA NEEDS TO TAKE THIS SERIOUSLY. NOW.

3) WE HAVE ONE CHILD WITH ELEVATED BLOOD LEAD ALREADY...IN FACT, THAT IS THE ONLY REASON WE KNOW ABOUT ANY OF THE ABOVE.

4) MDEQ IS STILL PUBLICLY INSISTING FLINT WATER HAS TESTED SAFE, IS SAFE, AND THAT FLINT HAS **NO VIOLATIONS** of any sort.

I believe that someone at HQ or in R5 should immediately take decisive action on this issue to protect the public.

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I believe that someone at HQ or in R5 should immediately take decisive action on this issue to protect the public.

Marc

To: Grevatt, Peter[Grevatt.Peter@epa.gov]
From: Meiburg, Stan
Sent: Sat 9/26/2015 11:29:03 PM
Subject: Re: CONFIDENTIAL: DELIBERATIVE--DO NOT RELEASE

Thanks especially for the catch on the film! It's so helpful to vet these things!

Stan

Sent from my iPhone

> On Sep 26, 2015, at 6:18 PM, Grevatt, Peter <Grevatt.Peter@epa.gov> wrote:
>
> Thanks Stan. This is very helpful and I have a few notes and suggestions:
>
> Current status: First paragraph - perhaps a minor point, but Marc Edwards has indicated that the corrosiveness of the Flint water has already increased blood leads in children in Flint.
>
> - third paragraph - when we met with the Mayor last week I also offered technical support and additional information on the Lead and Copper Rule from OW
>
> Background: second paragraph. Under EPA's Lead and Copper Rule, all water systems serving over 50,000 people must conduct corrosion studies unless they can show that corrosion control has been optimized. Some have questioned the extent to which The City of Flint has been conducting effective corrosion studies.
>
> Range of additional measures: first paragraph - corrosion control causes a CHEMICAL film to be deposited on the interior of the pipes, not a biofilm. This is an important distinction. Chlorine residual disinfectant is added to distribution systems to destroy biofilms which are a source of dangerous pathogens, so we are not trying to grow biofilms! ☐
>
> Third paragraph - point of use devices appear to be an ineligible expense under the DWSRF regulations. I will confirm with OGC whether there is a way to approve of a deviation from the regulations, but in general, this is a prohibited expense. In addition, point of use devices would likely be viewed by many as shifting the burden for public health protection from the city to the customer, as they must be properly maintained and operated in order to be effective.
>
> Hopefully this is helpful and please let me know if you have any further questions on any of these points.
>
> Sent from my iPhone
>
>> On Sep 26, 2015, at 5:31 PM, Meiburg, Stan <Meiburg.Stan@epa.gov> wrote:
>>
>> Here are my notes--comments welcome. I would like to get this to the Administrator this evening.
>>
>> Stan
>>
>> CONFIDENTIAL: DELIBERATIVE--DO NOT RELEASE
>>
>> Summary Notes on Flint Drinking Water Call 9-26-2015 3:00 p.m.
>>
>> Participants:
>>
>> Susan Hedman
>> Tom Burke

>> Peter Grevatt
>> Mark Rupp
>> Stan Meiburg
>> Matt Fritz
>>

>> Current status:
>>

>> According to press reports, the Mayor of Flint, Michigan, Dayne Walling, has stated publicly that the city's use of the Flint River as a drinking water source has resulted in an increased risk of lead leaching into drinking water because of the corrosiveness in the water supply coming from the Flint River. An advisory commission to the mayor of health professionals has also urged that additional actions need to be taken quickly. Outside parties, including a professor at Virginia Tech who has been involved in other city drinking water cases, including Washington, DC, have expressed concern that the increased corrosiveness of the Flint River source water is increasing the potential for higher levels of lead in blood for infants and small children, and has publicly released a study that makes this claim based on sampling for water and children's blood lead levels in Flint.

>>

>> There seems to be general agreement that there is a need for additional measures to control lead levels in the Flint, Michigan water system and to address public health concerns, but the question of their cost and how these will be paid for remains unsettled.

>>

>> The Mayor has asked for technical assistance from EPA and has talked with both leadership in Region 5 and the Office of Water, and we have offered technical assistance from ORD. The Mayor has requested additional funding assistance from Governor Snyder but as yet there has been no response from the State to this request. Congressman Dan Kildee has written EPA, FEMA and CDC/HHS also asking about funding assistance. Neither FEMA nor CDC/HHS has such funds available.

>>

>> Background

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>> Flint, Michigan is a city with a current population of about 99,000. In April, 2014 Flint switched its source drinking water supply from water supplied by the city of Detroit (from Lake Huron) to water from the Flint River. This was a measure to save money (about \$1.5 million a month) until Flint could complete its own pipeline to Lake Huron, a project expected to be completed by the end of 2016. At the time the switch was made, Flint was effectively in receivership and the switch was part of cost saving measures imposed by the city's receiver, appointed by the Governor. (Note: the city exited receivership earlier this year but is still in severe financial straits).

>>

>> At the time the switch was made, it was understood by the city and the state that because the corrosivity of Flint River water was greater than Lake Huron, and because there are lead pipes and fixtures and lead solder for copper pipes in the distribution system and households in Flint, there was a risk of increased mobilization of lead in home water supplies. The state directed the city to monitor the levels of lead in household systems following the switch to determine what additional corrosion controls might be needed.

>>

>> Since the switch there has been increasing concern that lead concentrations in Flint drinking water are in fact increasing, at least in some parts of the drinking water system. The populations of greatest concern are infants and small children in parts of Flint that have the highest amount of lead plumbing in the distribution system (this is not known with precision although there appears to be some data). Though the magnitude of the increasing concentrations, and how concentrations relate to existing health criteria, remain in dispute, there appears to be general agreement that additional mobilization of lead is occurring, and the city is now agreeing that additional measures are needed.

>>

>> The range of possible additional measures includes the following:

>>

>> -- The use of additional corrosion control techniques, specifically the addition of chemicals to reduce the corrosivity of the water and allow a biological film to grow back that will minimize mobilization of lead

from pipes, fixtures and solder. Two notes on this are relevant: first, it will take time for the film to regrow, and second, the balancing of the water chemistry of chemical addition so that other detrimental effects do not occur, such as the creation of additional disinfection byproducts, will also take some time.

>>

>> -- In the short term, supplying bottled drinking water and/or formula to households which are at greatest immediate risk of lead exposures. Priorities would be households with infants/small children in parts of Flint with the greatest exposure risk. It is not clear how many households this would cover.

>>

>> -- Another possible short term measure would be the use of Point of Service filters to reduce lead concentrations in drinking water. Such filters would be most useful in reducing lead exposure from small lead particles dislodged in the distribution system, not from dissolved lead, but given the age of Flint's distribution system this could provide some benefit.

>>

>> -- The city is already advising households to run taps for 5 minutes before using water for drinking, as this reduces lead concentrations as compared to first use water.

>>

>> -- Finally, the option of reconnecting the city's system to Detroit during the period before completion of the Flint pipeline to Lake Huron has also surfaced. This would also take a period of time to be effective in reducing concentrations for the same reason as the use of corrosion control techniques.

>>

>> Considerations Moving Forward

>>

>> -- Drinking water systems are historically managed between State and local health/environment departments. In Michigan, MDEQ is the responsible SDWA state agency. It appears to this point that the State health department has not been heavily involved. Tom makes the point that in other states, the health department's assessment of the degree of public health risk is highly influential within the state.

>>

>> -- Mayor Walling is in a contentious reelection campaign.

>>

>> -- Marc Edwards, the Virginia Tech professor, has reached out to EPA staff in Region 5 and in Headquarters, criticizing Flint's sampling program and expressing his opinion that "This is an unprecedented situation and EPA needs to take this seriously. Now." And "I believe someone at HQ or Region 5 should immediately take decisive action on this issue to protect the public.

>>

>> -- Prospects for class action litigation are being explored in Flint.

>>

>> -- We are not certain what additional actions the State of Michigan is contemplating. Susan is reaching out this weekend to the Director of Michigan DEQ to gain additional insight on this point. There is a sense that the state knows they bear some responsibility because of the financial dynamics of the source water switch, but what this may specifically mean is unclear.

>>

>> -- We are exploring whether the Drinking Water State Revolving Loan Fund could support the acquisition of Point of Use filters. Cost of this is unclear, and any equipment would need monthly filter replacement. Early assessment is that this would be precedent setting, and it is not clear we have the legal authority under the Safe Drinking Water Act to do this.

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>> -- Issues with past mismanagement (in prior administrations) of Flint water utility revenues complicate these discussions.

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>> Sent from my iPad

To: King, Carol[King.Carol@epa.gov]; Glowacki, Joanna[glowacki.joanna@epa.gov]; Christ, Lisa[Christ.Lisa@epa.gov]
From: Shoven, Heather
Sent: Mon 9/28/2015 12:28:01 PM
Subject: FYI: flint: link to city lead advisory (says corrosion control inhibitor to be added in 30-60 days); genesee county health dept fact sheet (includes old lead-free definition)

FYI

From: Porter, Andrea
Sent: Friday, September 25, 2015 4:16 PM
To: Deltoral, Miguel; Poy, Thomas; Bair, Rita; Crooks, Jennifer; Shoven, Heather
Cc: Schock, Michael
Subject: flint: link to city lead advisory (says corrosion control inhibitor to be added in 30-60days); genesee county health dept fact sheet (includes old lead-free definition)

Hi All,

Here's a link to the City's website with information on the Lead Advisory:
<https://www.cityofflint.com/2015/09/25/city-of-flint-issues-lead-advisory/>

Part of the advisory includes a time frame of 30-60 days for when corrosion control inhibitor will be added:

The City of Flint is working proactively along with the County Health Department, the Michigan Department of Environmental Quality, and the U.S. Environmental Protection Agency to improve the water system throughout the City. An accelerated plan to add a corrosion control agent to our water within 30 to 60 days with expedited approval from the Michigan Department of Environmental Quality is already underway. This will reduce corrosion which can cause lead in old pipes to leach into the water.

The Genesee County fact sheet isn't as nicely laid out as the one from the Sen. Ananich's website, and it refers to the old lead-free standard for faucets:

http://www.gchd.us/docs/Popular_Pages/GCHD_Lead_in_Water_Fact_Sheet_2_.pdf

What can I do to reduce or eliminate lead in my tap water?

Flush your cold-water pipes by running the water for approximately 5 minutes. The longer the water has been sitting in the pipes, the more lead it may contain. You can fill containers for later use, after the flushing process. Use only water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels because it dissolves more lead. You may choose to install a water filter that is NSF-certified for lead removal. If a water filter is installed, replace filters at least as often as recommended by the manufacturer.

Buy a lead-free faucet. The legal definition of "lead-free" still allows brass faucets to contain up to 8 percent lead. However, faucets marked with "NSF 61/9" and/or "California Proposition 65" meet stricter limits. Regularly clean particles from faucet aerators.

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

To: Singer, Joshua[Singer.Joshua@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]; Kelley, Jeff[kelley.jeff@epa.gov]
From: Arcaute, Francisco
Sent: Mon 9/28/2015 12:50:14 PM
Subject: FW: Flint water interim report - media request

Who's on the Flint water issue? This came in late Friday.

Thanks

F

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

Hi Anne,

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Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

To: King, Carol[King.Carol@epa.gov]; Glowacki, Joanna[glowacki.joanna@epa.gov]; Christ, Lisa[Christ.Lisa@epa.gov]
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Phone: 312-886-4427

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To: Arcaute, Francisco[Arcaute.Francisco@epa.gov]; Singer, Joshua[Singer.Joshua@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]
From: Kelley, Jeff
Sent: Mon 9/28/2015 12:50:50 PM
Subject: RE: Flint water interim report - media request

Pete

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Arcaute, Francisco
Sent: Monday, September 28, 2015 7:50 AM
To: Singer, Joshua; Cassell, Peter; Kelley, Jeff
Subject: FW: Flint water interim report - media request

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From: Lindsey Smith [mailto:lmismi@umich.edu]
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To: Kelley, Jeff[kelley.jeff@epa.gov]; Singer, Joshua[Singer.Joshua@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]
From: Arcaute, Francisco
Sent: Mon 9/28/2015 2:06:03 PM
Subject: RE: Flint water interim report - media request

Will do.

From: Kelley, Jeff
Sent: Monday, September 28, 2015 9:05 AM
To: Arcaute, Francisco; Singer, Joshua; Cassell, Peter
Subject: RE: Flint water interim report - media request

Cisco, why don't you get back to the reporter to let her know that we're working on her request?
I'll send a note to Tinka and the Water folks so we can start drafting a response.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Kelley, Jeff
Sent: Monday, September 28, 2015 7:51 AM
To: Arcaute, Francisco; Singer, Joshua; Cassell, Peter
Subject: RE: Flint water interim report - media request

Pete

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Arcaute, Francisco
Sent: Monday, September 28, 2015 7:50 AM
To: Singer, Joshua; Cassell, Peter; Kelley, Jeff
Subject: FW: Flint water interim report - media request

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From: Arcaute, Francisco
Sent: Mon 9/28/2015 2:06:54 PM
Subject: RE: Flint water interim report - media request

Chasing down...

Thanks

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Cc: Cassell, Peter[cassell.peter@epa.gov]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
From: Kelley, Jeff
Sent: Mon 9/28/2015 2:17:45 PM
Subject: Inquiry from Michigan Radio re Flint drinking water

Michigan Radio is asking:

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Has the report been finalized? If not, what's the timeframe for doing so? Maybe we can craft a response that explains the status of the report and also include some or all of the information we included in our last desk statement (below)?

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. MDEQ determined that although recent lead monitoring shows Flint has not exceeded the lead action level (15 ug/L), the results indicate Flint does not have optimized corrosion control. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley

Director, Office of External Communications

U.S. EPA Region 5

ph: 312-353-1159

To: Poy, Thomas[poy.thomas@epa.gov]; Hyde, Tinka[hyde.tinka@epa.gov]
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Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

Has the report been finalized? If not, what's the timeframe for doing so? Maybe we can craft a response that explains the status of the report and also include some or all of the information we included in our last desk statement (below)?

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. MDEQ determined that although recent lead monitoring shows Flint has not exceeded the lead action level (15 ug/L), the results indicate Flint does not have optimized corrosion control. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley

Director, Office of External Communications

U.S. EPA Region 5

ph: 312-353-1159

To: Arcaute, Francisco[Arcaute.Francisco@epa.gov]; Singer, Joshua[Singer.Joshua@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]
From: Kelley, Jeff
Sent: Mon 9/28/2015 2:04:58 PM
Subject: RE: Flint water interim report - media request

Cisco, why don't you get back to the reporter to let her know that we're working on her request? I'll send a note to Tinka and the Water folks so we can start drafting a response.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Kelley, Jeff
Sent: Monday, September 28, 2015 7:51 AM
To: Arcaute, Francisco; Singer, Joshua; Cassell, Peter
Subject: RE: Flint water interim report - media request

Pete

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Arcaute, Francisco
Sent: Monday, September 28, 2015 7:50 AM
To: Singer, Joshua; Cassell, Peter; Kelley, Jeff
Subject: FW: Flint water interim report - media request

Who's on the Flint water issue? This came in late Friday.

Thanks

F

From: Lindsey Smith [<mailto:lmismi@umich.edu>]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

Hi Anne,

Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

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All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

To: Kelley, Jeff[kelley.jeff@epa.gov]; Singer, Joshua[Singer.Joshua@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]
From: Arcaute, Francisco
Sent: Mon 9/28/2015 2:06:03 PM
Subject: RE: Flint water interim report - media request

Will do.

From: Kelley, Jeff
Sent: Monday, September 28, 2015 9:05 AM
To: Arcaute, Francisco; Singer, Joshua; Cassell, Peter
Subject: RE: Flint water interim report - media request

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U.S. EPA Region 5
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To: Poy, Thomas[poy.thomas@epa.gov]; Hyde, Tinka[hyde.tinka@epa.gov]
Cc: Cassell, Peter[cassell.peter@epa.gov]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
From: Kelley, Jeff
Sent: Mon 9/28/2015 2:17:45 PM
Subject: Inquiry from Michigan Radio re Flint drinking water

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To: Reynolds, Thomas[Reynolds.Thomas@epa.gov]; Purchia, Liz[Purchia.Liz@epa.gov]; Allen, Laura[Allen.Laura@epa.gov]; Conger, Nick[Conger.Nick@epa.gov]; Hull, George[Hull.George@epa.gov]; Davis, Jay[Davis.Jay@epa.gov]; Perry, Dale[Perry.Dale@epa.gov]; Vaught, Laura[Vaught.Laura@epa.gov]; Distefano, Nichole[DiStefano.Nichole@epa.gov]; Harrison, Melissa[Harrison.Melissa@epa.gov]; Rupp, Mark[Rupp.Mark@epa.gov]
From: Abrams, Dan
Sent: Mon 9/28/2015 2:49:58 PM
Subject: flag: Flint, MI lead in water

Hi folks:

Just wanted to make you all aware of this issue in R5 that Jeff Kelley talked to me about. In 2014 the city switched their water source to Flint River which has had some problems chemically in the past and since the switch service lines have had some corrosion issues increasing lead levels in some residents homes. There is some concern about the validity of the city's testing as the city is finding lead levels that different from independent testers. EPA is involved through ORD's participation on a technical committee and the region is working with the Michigan DEQ.

Below are a few clips. It's starting to pick up nationally through an AP story late last week but mostly it remains a local story.

I have some more information about this and can talk to anyone at more length if needed.

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US World News & Report (AP)

<http://www.usnews.com/news/articles/2015/09/25/flint-michigan-children-show-high-levels-of-lead-in-blood>

Did This Michigan Town Poison Its Children?

FLINT, Mich. (AP) — Some doctors urged Flint on Thursday to stop using the Flint River for

water after finding high levels of lead in the blood of children, an extraordinary health warning in an ongoing controversy over the city's water supply.

"It's our professional obligation to care for the children of Flint if we know something," said the lead researcher, Dr. Mona Hanna-Attisha of Hurley Medical Center in Flint. "Lead poisoning is irreversible. This is not what our community needs. You have to err on the side of caution (and) educate the public."

There is no dispute that water drawn from the Flint River since 2014 is agitating and releasing lead in old pipes and service lines in thousands of homes. State regulators insist the water is safe, although they're urging anyone with concerns to have their water tested for free.

Hanna-Attisha said she looked at 1,746 test results from Flint children this year, compared to earlier results when Flint used Lake Huron as its water source. The percentage of kids with above-average lead levels had nearly doubled, according to the study. In certain areas, it tripled.

The study said Flint should stop using the Flint River "as soon as possible." Flint plans to switch to Lake Huron water again in 2016 when a pipeline is completed.

"No amount of lead is good for human beings. ... You can pay now or pay later," said Dr. Lawrence Reynolds, president and chief executive officer of Mott Children's Health Center, who appeared at a news conference with Hanna-Attisha.

State regulators quickly responded. Brad Wurfel, spokesman at the Department of Environmental Quality, said the water controversy is becoming "near-hysteria."

"I wouldn't call them irresponsible. I would call them unfortunate," Wurfel said of the doctors' comments.

"Flint's drinking water is safe in that it's meeting state and federal standards," he said. "The

system has an aging portion that needs to be addressed. They haven't had meaningful maintenance for four decades or more."

The state Department of Health and Human Services hasn't found the same results in its own work, spokeswoman Geralyn Lasher said.

"Our experts want a better sense of how they got there," she said. "The data that we have is a much larger set of data. ... We're not seeing what those numbers look like."

The Flint Journal

http://www.mlive.com/news/flint/index.ssf/2015/09/kildee_says_independent_tests.html

U.S. congressman calls for more testing of Flint water

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 21, 2015 at 6:34 PM, updated September 21, 2015 at 7:24 PM

FLINT, MI -- Congressman Dan Kildee says more homes need to to have water tested for lead in Flint and wants an agency or company other than the city or state to carry out the testing.

Kildee said in a news release today, Sept. 21, that "the city, (Michigan Department of Environmental Quality and U.S. Environmental Protection Agency) have not adequately answered my questions on their testing methods to ensure the safety of Flint's water."

The comments come after a meeting today in Lansing that included Kildee, representatives of the DEQ, EPA, state Sen. Minority Leader Jim Ananich, D-Flint.

The call for independent testing also comes after researchers from Virginia Tech University have reported finding a much greater problem with lead in city drinking water than have city and state tests have suggested.

Ananich, D-Flint, also issued a statement saying the differing results from water testing isn't good enough.

"The question we are asking is simple: Is the water in Flint safe? Or are children being exposed to potentially dangerous levels of lead that would impact them for the rest of their lives?" Ananich's statement says. "Right now, we have conflicting results from the (DEQ) and a noted scientist, Dr. Marc Edwards. When it comes to our kids, and our water, we need better than, 'I don't know.' "

Edwards is the Virginia Tech professor overseeing testing of Flint water by students and professors from the university.

The group has reported finding a serious problem with lead in Flint water, including 10 percent of homes tested that had 25 parts per billion of lead or more -- far more than the allowable level -- 15 ppb -- set in federal guidelines.

City and state officials have said those numbers are far higher than Flint's own testing shows, which are lead levels that are within allowable levels.

Flint City Administrator Natasha Henderson said in a statement issued by the city today that she welcomes more water sampling.

"The city of Flint has no problem with cooperating in additional testing. In fact, at this time we are already taking the steps necessary to improve Flint's water including a plan to add a corrosion inhibitor into the treatment process in addition to ongoing efforts to fix problems in the distribution system.

"The city also continues to offer free and independent testing so that all customers understand the water quality in their homes, including any problems with lead. Our focus has been and will continue to be to provide safe, quality water to our customers," the statement says.

Brad Wurfel, a spokesman for the DEQ, said the Flint water supply "presently meets all state and federal water quality standards," but said homes with lead service connections and lead plumbing "are and always have been imparting some part-per-billion of lead, which is a concern."

"We were pleased to conclude the meeting (today) with the shared commitment to bring a local, state and federal partnership to address this issue through the City's technical advisory team," Wurfel's statement says. "Given issues like the proposed federal grant forgiveness or the call for system-wide replacement of home lead connections to address the long-term issue, the leadership of our congressional delegation will be of critical importance."

Flint Mayor Dayne Walling has asked Gov. Rick Snyder for \$30 million to address Flint infrastructure, including \$10 million to replace some service connections with lead in a letter earlier this month.

Edwards has said the Flint River has made the problem of lead in water worse than it was prior to April 2014, when the city ended its purchase of Lake Huron water that had been treated by the city of Detroit.

The city and Genesee County are currently building a new water pipeline to bring raw Lake Huron water here through the Karegnondi Water Authority.

Edwards said the treated river water is much more corrosive than treated lake water, causing more lead to leach into tap water.

Edwards visited Flint earlier this month and questioned the validity of Flint's water sampling

after citizen complaints about the color and odor of their water.

Kildee said he has "been given no reason to have confidence in the current testing results."

The congressman said it is unclear after the meeting with state, city and federal officials whether homes sampled in 2014 and 2015 also took part in previous tests, which could have shown trends in water quality."

The Flint Journal-MLive recently reported that state records show the level of lead in Flint drinking water spiked after the city changed its water source to the Flint River.

The Flint Journal

http://www.mlive.com/news/flint/index.ssf/2015/09/flint_water_lead_levels_spiked.html

Lead levels in Flint water spiked after switch to river, state records show

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 19, 2015 at 5:50 AM, updated September 19, 2015 at 7:59 AM

FLINT, MI -- City officials insist their own testing shows Flint water is safe and within federal guidelines for lead.

But those same tests also show lead levels have been rising since the city began using the Flint River for water 16 months ago.

The results of Flint's testing for lead since 1992, released by the state Department of Environmental Quality to The Flint Journal-MLive, show 10 percent of homes sampled in the city's most recent testing contained 11 parts per billion or more of lead, with six of 69 samples exceeding the federal lead limit of 15 ppb.

Those are the highest lead levels measured in Flint by the city in more than 20 years, the state data shows.

In contrast, the city's tests of Lake Huron water from Detroit for one 10-year period -- from June 2001 until September 2011 -- resulted in just one of 155 samples registering higher than 15 ppb of lead.

Flint began treating river water in April 2014 after Detroit terminated an expired contract for selling water to the city. The cutoff came after Flint joined Genesee County to form the Karegnondi Water Authority, which is building a new pipeline to Lake Huron, a project that's expected to be completed sometime next year.

City and state officials have pointed to their own testing as evidence that Flint water is safe and under the 15 ppb limit, but have said little about the lead level drifting up.

Marc Edwards, who is supervising separate water testing in Flint by Virginia Tech University, said there's no mistaking the pattern.

"The Flint River -- based on the chemistry -- has an obvious propensity for lead to be released to water," Edwards said. "There should have been red lights flashing (when the city began using the river in April 2014) -- knowing that if you put that water into Flint's system without corrosion control, you're going to see a massive lead release."

That release is what Edwards' testing has shown as 10 percent of homes sampled by students and faculty from Virginia Tech have had lead levels of at least 25 ppb.

Since the testing started, Mayor Dayne Walling announced Flint would speed up development of a plan for reducing corrosiveness of city water and called for \$10 million in state funds to begin replacing lead and lead solder in water service lines and plumbing.

Flint Department of Public Works Director Howard Croft would not attribute higher lead levels to the river alone, but said the source of the water is one variable as is the amount of time water is stagnant in pipes.

"Lead is in there. It's always been there," Croft said. "We would like there to be no lead, (but) I'm happy how aggressively we are responding" to what the city has.

Steve Busch, Lansing and Jackson district supervisor in the DEQ's office of drinking water and municipal assistance, said lead testing results vary in many areas and a shift doesn't necessarily show Flint River water is more susceptible to higher lead levels than lake water.

"We see numbers fluctuate with the same treatment and the same water," Busch said. "We have levels go up and down from monitoring round to monitoring round."

Lead is a toxic metal that was used for many year in products found in and around homes, according to the U.S. Environmental Protection Agency. Even at low levels, lead may cause health effects such as behavioral problems and learning disabilities.

Current regulations for lead in water began in 1992 and require a limited amount of testing to measure the degree to which lead leaches into tap water after flowing through lead service lines and lead solder in home plumbing.

If more than 10 percent of tap water samples from water systems exceed 15 ppb, the water system can be required to take steps like making water less corrosive or replacing lead service lines.

Since the EPA announced its lead and copper rule in 1991, Flint has collected 33 samples every six to 36 months but the number of tests increased after the city changed its water source to the river, according to state data.

State records show 100 samples were collected from Flint in the last six months of 2014, showing two sites with readings of more than 15 ppb of lead and 10 percent of homes registering at 6 ppb or more.

From January until June this year, the city collected just 69 samples, a reduction that was allowed because Flint's population had dropped below 100,000, Busch said.

The last time testing by the city showed a higher percentage of water samples above 11 parts per billion was 1992, immediately after new lead and copper rules went into effect.

In that case, the city of Detroit took five years to develop a plan to better control corrosion and lead levels and brought lead levels down from a high of 15 ppb in 10 percent of samples taken in Flint.

The Flint Journal

http://www.mlive.com/news/flint/index.ssf/2015/09/virginia_tech_researcher_says.html

-

Virginia Tech professor says Flint's tests for lead in water can't be trusted

By Ron Fonger | rfonger1@mlive.com The Flint Journal
September 15, 2015 at 5:03 PM, updated September 15, 2015 at 6:04 PM

(This story has been updated with a statement issued by Flint Administrator Natasha Henderson.)

FLINT, MI -- A Virginia Tech University professor overseeing research on lead in Flint's drinking water says the results of the city's own testing for lead cannot be trusted.

Professor Marc Edwards, who was scheduled to speak in Flint Tuesday night, Sept. 15, on water sampling by Virginia Tech students and faculty, said water flowing into homes and businesses in Flint is so corrosive that it's eating into lead and lead solder in pipes.

Virginia Tech researchers have said their testing shows a serious problem with lead in Flint water including 10 percent of homes that had 25 parts per billion of lead or more -- far more than the allowable level -- 15 ppb -- set in federal guidelines.

City and state Department of Environmental Quality officials have said those numbers are far higher than Flint's own testing shows, which are lead levels that are within allowable levels.

Edwards said Tuesday that the city's results amount to "smoke and mirrors."

Among the problems Edwards claimed: The city never tested in areas known to be susceptible to high lead levels, never re-sampled homes in 2015 that were found to have high levels in 2014, and failed to notify residents when they did find problems with lead in the water of their homes.

City Administrator Natasha Henderson released a statement today in response to questions based on comments made by Edwards and others.

"Testing was performed by the city of Flint using (U.S. Environmental Protection Agency) and (Michigan Department of Environmental Quality) approved procedures according to regulatory statute," Henderson's statement says.

"In both (two) rounds of testing, over 175 homes were solicited for voluntary participation. Each

testing bottle given to residents for sampling contains MDEQ approved instructions for collection. We are currently working with the MDEQ to implement our water optimization plan to add corrosion control to our water and still encourage anyone who would like a free and independent in-home lead test to be performed to schedule one by calling 810-787-6537 or by emailing flintwater@cityofflint.com."

Edwards was joined in a news conference at City Hall with water activists who have advocated that the city end its use of the Flint River as a water source and return to purchasing Lake Huron water from the city of Detroit.

The professor said a return to less-corrosive Lake Huron water would drastically reduce lead levels in tap water within two weeks and nearly eliminate high lead readings after a month.

"This (problem with lead) is occurring because the water is too corrosive," he said. "It has too much salt in it, and there was no plan to control the corrosion" when the city began using the river in April 2014.

"Flint is the only city in American that I'm aware of that does not have a corrosion-control plan in place to stop this kind of problem."

Just this month, as the results of the Virginia Tech water study began to be released, Flint Mayor Dayne Walling said in a news release that the city -- acting on advice from the state Department of Environmental Quality -- would speed up the development of a plan for corrosion control.

The Flint Journal-MLive could not reach Walling for comment on Edwards' remarks Tuesday.

On Monday, Sept 14, the mayor called on Gov. Rick Snyder to supply Flint with \$30 million for Flint's infrastructure, including \$10 million to replace lead service lines to water customers' homes.

Edwards, who Time Magazine dubbed "The Plumbing Professor" in 2004 and which listed him among the four most important innovators in water from around the world, is among those scheduled to speak during a town hall meeting from 6-8 p.m. Tuesday at Saints of God Church, 2200 Forest Hill Ave.

Among other comments and information released during Tuesdays news conference:

The city's east-west midsection had the highest percentage of water samples that registered more than 15 parts per billion of lead in at least one sample. Thirty percent of 84 test sites registered at least one sample of 15 ppb or more of lead in Wards 5, 6 and 7.

Virginia Tech researchers said the National Science Foundation has agreed to spend \$50,000 to fund their one-year study into what they called a "perfect storm" of water distribution system corrosion problems in Flint.

Kettering University Professor Laura Sullivan, a member of Flint's Technical Advisory Committee for water, called on the city to replace all service lines containing lead at no cost to residents and to provide information by the end of this month on where service lines containing lead are located.

Nayyirah Shariff, a representative of the Flint Democracy Defense League, called on the city to distribute free filters to all water customers, saying lead in water here amounts to a "public health crisis."

Flint and Michigan Department of Environmental Quality officials have said lead has not tested above allowable levels in Flint since the city began using the Flint River for drinking water in April 2014.

Brad Wurfel, director of communications for the DEQ, said there is lead in all water where lead service lines and plumbing with lead solder exist.

"The problem isn't new," Wurfel said Tuesday. "It's just news (now, and) a knee-jerk reaction would be an irresponsible response."

The DEQ is preparing a briefing for state and federal officials regarding Flint's lead-in-water issues, the director said.

Jason Lorenz, a spokesman for the city, was not immediately available for comment on Edwards' remarks today or his findings.

Edwards used two water bottles and two iron nails to demonstrate what he said was the corrosiveness of Flint water, showing how the sample of treated river water was far more discolored by a nail than water from the city of Detroit.

"The (Flint) water looks bad, it smells bad, and it tastes bad, and this is part of what people have been complaining about," Edwards said. "If you don't have this problem in Flint, it's because you're lucky."

Lead is a toxic metal that was used for many years in products found in and around homes, according to the U.S. Environmental Protection Agency

"Even at low levels, lead may cause a range of health effects, including behavioral problems and learning disabilities," EPA's website says. "Children 6 years old and under are most at risk because this is when the brain is developing."

Dan Abrams

U.S. Environmental Protection Agency

Office: (202) 564-2507 *Mobile:* (202) 768-5811

1200 Pennsylvania Avenue NW

Washington, DC 20460

To: Abrams, Dan[Abrams.Dan@epa.gov]
Cc: Reynolds, Thomas[Reynolds.Thomas@epa.gov]; Purchia, Liz[Purchia.Liz@epa.gov]; Allen, Laura[Allen.Laura@epa.gov]; Conger, Nick[Conger.Nick@epa.gov]; Hull, George[Hull.George@epa.gov]; Davis, Jay[Davis.Jay@epa.gov]; Perry, Dale[Perry.Dale@epa.gov]; Vaught, Laura[Vaught.Laura@epa.gov]; Distefano, Nichole[DiStefano.Nichole@epa.gov]; Harrison, Melissa[Harrison.Melissa@epa.gov]
From: Rupp, Mark
Sent: Mon 9/28/2015 3:19:55 PM
Subject: Re: flag: Flint, MI lead in water

Thanks. There were some weekend discussions with Stan, Susan, others this weekend to lay a plan. Susan spoke to the enviro commissioner yesterday and he's talking to the governor today.

On Sep 28, 2015, at 10:50 AM, Abrams, Dan <Abrams.Dan@epa.gov> wrote:

Hi folks:

Just wanted to make you all aware of this issue in R5 that Jeff Kelley talked to me about. In 2014 the city switched their water source to Flint River which has had some problems chemically in the past and since the switch service lines have had some corrosion issues increasing lead levels in some residents homes. There is some concern about the validity of the city's testing as the city is finding lead levels that different from independent testers.

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"No amount of lead is good for human beings. ... You can pay now or pay later," said Dr. Lawrence Reynolds, president and chief executive officer of Mott Children's Health Center, who appeared at a news conference with Hanna-Attisha.

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FLINT, MI -- Congressman Dan Kildee says more homes need to to have water tested for lead in Flint and wants an agency or company other than the city or state to carry out the testing.

Kildee said in a news release today, Sept. 21, that "the city, (Michigan Department of Environmental Quality and U.S. Environmental Protection Agency) have not adequately answered my questions on their testing methods to ensure the safety of Flint's water."

The comments come after a meeting today in Lansing that included Kildee, representatives of the DEQ, EPA, state Sen. Minority Leader Jim Ananich, D-Flint.

The call for independent testing also comes after researchers from Virginia Tech University have reported finding a much greater problem with lead in city drinking water than have city and state tests have suggested.

Ananich, D-Flint, also issued a statement saying the differing results from water testing isn't good enough.

"The question we are asking is simple: Is the water in Flint safe? Or are children being exposed to potentially dangerous levels of lead that would impact them for the rest of their lives?" Ananich's statement says. "Right now, we have conflicting results from the (DEQ) and a noted scientist, Dr. Marc Edwards. When it comes to our kids, and our water, we need better than, 'I don't know.' "

Edwards is the Virginia Tech professor overseeing testing of Flint water by students and professors from the university.

The group has reported finding a serious problem with lead in Flint water, including 10 percent of homes tested that had 25 parts per billion of lead or more -- far more than the allowable level -- 15 ppb -- set in federal guidelines.

City and state officials have said those numbers are far higher than Flint's own testing shows, which are lead levels that are within allowable levels.

Flint City Administrator Natasha Henderson said in a statement issued by the city today that she welcomes more water sampling.

"The city of Flint has no problem with cooperating in additional testing. In fact, at this time we are already taking the steps necessary to improve Flint's water including a plan to add a corrosion inhibitor into the treatment process in addition to ongoing efforts to fix problems in the distribution system.

"The city also continues to offer free and independent testing so that all customers understand the water quality in their homes, including any problems with lead. Our focus has been and will continue to be to provide safe, quality water to our customers," the statement says.

Brad Wurfel, a spokesman for the DEQ, said the Flint water supply "presently meets all state and federal water quality standards," but said homes with lead service connections and lead plumbing "are and always have been imparting some part-per-billion of lead, which is a concern."

"We were pleased to conclude the meeting (today) with the shared commitment to bring a local, state and federal partnership to address this issue through the City's technical advisory team," Wurfel's statement says. "Given issues like the proposed federal grant forgiveness or the call for system-wide replacement of home lead connections to address the long-term issue, the leadership of our congressional delegation will be of critical importance."

Flint Mayor Dayne Walling has asked Gov. Rick Snyder for \$30 million to address Flint infrastructure, including \$10 million to replace some service connections with lead in a letter earlier this month.

Edwards has said the Flint River has made the problem of lead in water worse than it was prior to April 2014, when the city ended its purchase of Lake Huron water that had been treated by the city of Detroit.

The city and Genesee County are currently building a new water pipeline to bring raw Lake Huron water here through the Karegnondi Water Authority.

Edwards said the treated river water is much more corrosive than treated lake water, causing more lead to leach into tap water.

Edwards visited Flint earlier this month and questioned the validity of Flint's water sampling after citizen complaints about the color and odor of their water.

Kildee said he has "been given no reason to have confidence in the current testing results."

The congressman said it is unclear after the meeting with state, city and federal officials whether homes sampled in 2014 and 2015 also took part in previous tests, which could have shown trends in water quality."

The Flint Journal-MLive recently reported that state records show the level of lead in Flint drinking water spiked after the city changed its water source to the Flint River.

The Flint Journal

http://www.mlive.com/news/flint/index.ssf/2015/09/flint_water_lead_levels_spiked.html

Lead levels in Flint water spiked after switch to river, state records show

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 19, 2015 at 5:50 AM, updated September 19, 2015 at 7:59 AM

FLINT, MI -- City officials insist their own testing shows Flint water is safe and within federal guidelines for lead.

But those same tests also show lead levels have been rising since the city began using the Flint River for water 16 months ago.

The results of Flint's testing for lead since 1992, released by the state Department of Environmental Quality to The Flint Journal-MLive, show 10 percent of homes sampled in the city's most recent testing contained 11 parts per billion or more of lead, with six of 69 samples exceeding the federal lead limit of 15 ppb.

Those are the highest lead levels measured in Flint by the city in more than 20 years, the state data shows.

In contrast, the city's tests of Lake Huron water from Detroit for one 10-year period -- from June 2001 until September 2011 -- resulted in just one of 155 samples registering higher than 15 ppb of lead.

Flint began treating river water in April 2014 after Detroit terminated an expired contract for selling water to the city. The cutoff came after Flint joined Genesee County to form the Karegnondi Water Authority, which is building a new pipeline to Lake Huron, a project that's expected to be completed sometime next year.

City and state officials have pointed to their own testing as evidence that Flint water is safe and under the 15 ppb limit, but have said little about the lead level drifting up.

Marc Edwards, who is supervising separate water testing in Flint by Virginia Tech University, said there's no mistaking the pattern.

"The Flint River -- based on the chemistry -- has an obvious propensity for lead to be released to water," Edwards said. "There should have been red lights flashing (when the city began using the river in April 2014) -- knowing that if you put that water into Flint's system without corrosion control, you're going to see a massive lead release."

That release is what Edwards' testing has shown as 10 percent of homes sampled by students and faculty from Virginia Tech have had lead levels of at least 25 ppb.

Since the testing started, Mayor Dayne Walling announced Flint would speed up development of a plan for reducing corrosiveness of city water and called for \$10 million in state funds to begin replacing lead and lead solder in water service lines and plumbing.

Flint Department of Public Works Director Howard Croft would not attribute higher lead levels to the river alone, but said the source of the water is one variable as is the amount of time water is stagnant in pipes.

"Lead is in there. It's always been there," Croft said. "We would like there to be no lead, (but) I'm happy how aggressively we are responding" to what the city has.

Steve Busch, Lansing and Jackson district supervisor in the DEQ's office of drinking water and municipal assistance, said lead testing results vary in many areas and a shift doesn't necessarily show Flint River water is more susceptible to higher lead levels than lake water.

"We see numbers fluctuate with the same treatment and the same water," Busch said. "We have levels go up and down from monitoring round to monitoring round."

Lead is a toxic metal that was used for many year in products found in and around homes, according to the U.S. Environmental Protection Agency. Even at low levels, lead may cause health effects such as behavioral problems and learning disabilities.

Current regulations for lead in water began in 1992 and require a limited amount of testing to measure the degree to which lead leaches into tap water after flowing through lead service lines and lead solder in home plumbing.

If more than 10 percent of tap water samples from water systems exceed 15 ppb, the water system can be required to take steps like making water less corrosive or replacing lead service lines.

Since the EPA announced its lead and copper rule in 1991, Flint has collected 33 samples every six to 36 months but the number of tests increased after the city changed its water source to the river, according to state data.

State records show 100 samples were collected from Flint in the last six months of 2014, showing two sites with readings of more than 15 ppb of lead and 10 percent of homes registering at 6 ppb or more.

From January until June this year, the city collected just 69 samples, a reduction that was allowed because Flint's population had dropped below 100,000, Busch said.

The last time testing by the city showed a higher percentage of water samples above 11 parts per billion was 1992, immediately after new lead and copper rules went into effect.

In that case, the city of Detroit took five years to develop a plan to better control corrosion and lead levels and brought lead levels down from a high of 15 ppb in 10 percent of samples taken in Flint.

The Flint Journal

http://www.mlive.com/news/flint/index.ssf/2015/09/virginia_tech_researcher_says.html

-

Virginia Tech professor says Flint's tests for lead in water can't be trusted

By Ron Fonger | rfonger1@mlive.com The Flint Journal
September 15, 2015 at 5:03 PM, updated September 15, 2015 at 6:04 PM

(This story has been updated with a statement issued by Flint Administrator Natasha Henderson.)

FLINT, MI -- A Virginia Tech University professor overseeing research on lead in Flint's drinking water says the results of the city's own testing for lead cannot be trusted.

Professor Marc Edwards, who was scheduled to speak in Flint Tuesday night, Sept. 15, on water sampling by Virginia Tech students and faculty, said water flowing into homes and businesses in Flint is so corrosive that it's eating into lead and lead solder in pipes.

Virginia Tech researchers have said their testing shows a serious problem with lead in Flint water including 10 percent of homes that had 25 parts per billion of lead or more -- far more than the allowable level -- 15 ppb -- set in federal guidelines.

City and state Department of Environmental Quality officials have said those numbers are far higher than Flint's own testing shows, which are lead levels that are within allowable levels.

Edwards said Tuesday that the city's results amount to "smoke and mirrors."

Among the problems Edwards claimed: The city never tested in areas known to be susceptible to high lead levels, never re-sampled homes in 2015 that were found to have high levels in 2014, and failed to notify residents when they did find problems with lead in

the water of their homes.

City Administrator Natasha Henderson released a statement today in response to questions based on comments made by Edwards and others.

"Testing was performed by the city of Flint using (U.S. Environmental Protection Agency) and (Michigan Department of Environmental Quality) approved procedures according to regulatory statute," Henderson's statement says.

"In both (two) rounds of testing, over 175 homes were solicited for voluntary participation. Each testing bottle given to residents for sampling contains MDEQ approved instructions for collection. We are currently working with the MDEQ to implement our water optimization plan to add corrosion control to our water and still encourage anyone who would like a free and independent in-home lead test to be performed to schedule one by calling 810-787-6537 or by emailing flintwater@cityofflint.com."

Edwards was joined in a news conference at City Hall with water activists who have advocated that the city end its use of the Flint River as a water source and return to purchasing Lake Huron water from the city of Detroit.

The professor said a return to less-corrosive Lake Huron water would drastically reduce lead levels in tap water within two weeks and nearly eliminate high lead readings after a month.

"This (problem with lead) is occurring because the water is too corrosive," he said. "It has too much salt in it, and there was no plan to control the corrosion" when the city began using the river in April 2014.

"Flint is the only city in American that I'm aware of that does not have a corrosion-control plan in place to stop this kind of problem."

Just this month, as the results of the Virginia Tech water study began to be released, Flint Mayor Dayne Walling said in a news release that the city -- acting on advice from the state Department of Environmental Quality -- would speed up the development of a plan for corrosion control.

The Flint Journal-MLive could not reach Walling for comment on Edwards' remarks Tuesday.

On Monday, Sept 14, the mayor called on Gov. Rick Snyder to supply Flint with \$30 million for Flint's infrastructure, including \$10 million to replace lead service lines to water customers' homes.

Edwards, who Time Magazine dubbed "The Plumbing Professor" in 2004 and which listed him among the four most important innovators in water from around the world, is among those scheduled to speak during a town hall meeting from 6-8 p.m. Tuesday at Saints of God Church, 2200 Forest Hill Ave.

Among other comments and information released during Tuesdays news conference:

The city's east-west midsection had the highest percentage of water samples that registered more than 15 parts per billion of lead in at least one sample. Thirty percent of 84 test sites registered at least one sample of 15 ppb or more of lead in Wards 5, 6 and 7.

Virginia Tech researchers said the National Science Foundation has agreed to spend \$50,000 to fund their one-year study into what they called a "perfect storm" of water distribution system corrosion problems in Flint.

Kettering University Professor Laura Sullivan, a member of Flint's Technical Advisory Committee for water, called on the city to replace all service lines containing lead at no cost to residents and to provide information by the end of this month on where service lines containing lead are located.

Nayyirah Shariff, a representative of the Flint Democracy Defense League, called on the city to distribute free filters to all water customers, saying lead in water here amounts to a "public health crisis."

Flint and Michigan Department of Environmental Quality officials have said lead has not tested above allowable levels in Flint since the city began using the Flint River for drinking water in April 2014.

Brad Wurfel, director of communications for the DEQ, said there is lead in all water where lead service lines and plumbing with lead solder exist.

"The problem isn't new," Wurfel said Tuesday. "It's just news (now, and) a knee-jerk reaction would be an irresponsible response."

The DEQ is preparing a briefing for state and federal officials regarding Flint's lead-in-water issues, the director said.

Jason Lorenz, a spokesman for the city, was not immediately available for comment on Edwards' remarks today or his findings.

Edwards used two water bottles and two iron nails to demonstrate what he said was the corrosiveness of Flint water, showing how the sample of treated river water was far more discolored by a nail than water from the city of Detroit.

"The (Flint) water looks bad, it smells bad, and it tastes bad, and this is part of what people have been complaining about," Edwards said. "If you don't have this problem in Flint, it's because you're lucky."

Lead is a toxic metal that was used for many years in products found in and around homes, according to the U.S. Environmental Protection Agency

"Even at low levels, lead may cause a range of health effects, including behavioral problems and learning disabilities," EPA's website says. "Children 6 years old and under are most at risk because this is when the brain is developing."

Dan Abrams

U.S. Environmental Protection Agency

Office: (202) 564-2507 *Mobile:* (202) 768-5811

1200 Pennsylvania Avenue NW

Washington, DC 20460

To: Busch, Stephen (DEQ)[BUSCHS@michigan.gov]
Cc: Benzie, Richard (DEQ)[BENZIER@michigan.gov]; Cook, Pat (DEQ)[COOKP@michigan.gov]; Prysby, Mike (DEQ)[PRYSBYM@michigan.gov]; Wurfel, Brad (DEQ)[WurfelB@michigan.gov]; Hyde, Tinka[hyde.tinka@epa.gov]
From: Yanna Lambrinidou
Sent: Mon 9/28/2015 4:30:24 PM
Subject: Re: question about optimal WQP ranges for Flint's water

Dear Mr. Busch,

I appreciate your response.

Would you be able to send me a copy of the modified consecutive system approach to lead and copper monitoring that EPA approved?

I am sorry I cannot route my question through the NDWAC or my WG. I am not a NDWAC member, and my WG disbanded when our final report was completed back in August. I apologize if I have caused any confusion. The questions I am posing come solely from me because I am in the process of writing a dissenting opinion about the NDWAC LCR WG recommendations that is due to EPA in a couple of weeks. One of the main reasons I am writing this opinion is because of concerns I have about the LCR's CCT requirement. Your experience with and implementation of the LCR in Flint is extremely helpful to me in deepening my understanding about the LCR's CCT requirement and will undoubtedly allow me to write a more informed discussion.

I thank you in advance for your help on this matter and your support of ongoing efforts to assess the LCR carefully and thoroughly.

Kindly,

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B www.dcwasawatch.blogspot.com

From: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
To: Yanna Lambrinidou <pnalternatives@yahoo.com>
Cc: "Benzie, Richard (DEQ)" <BENZIER@michigan.gov>; "Cook, Pat (DEQ)" <COOKP@michigan.gov>; "Prysby, Mike (DEQ)" <PRYSBYM@michigan.gov>; "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>; "hyde.tinka@epa.gov" <hyde.tinka@epa.gov>
Sent: Friday, September 25, 2015 8:26 AM
Subject: RE: question about optimal WQP ranges for Flint's water

Dr. Lambrinidou,

I'm sorry for the delay in my response. As some of your questions relate more to statewide program implementation I have requested assistance with the response from staff within our central program office. However, these staff were attending and participating in an offsite (American Water Works Association Conference Michigan Section) conference last week.

Michigan has implemented an EPA approved modified consecutive system approach to lead and copper monitoring where a wholesale water supply sells water to other community water systems. In addition, while water quality parameter (WQP) monitoring occurs at both the water treatment plant and in the combined distribution system, a WQP range is only required to be established at the water treatment plant tap after the system has demonstrated optimized corrosion control treatment (OCCT).

Thus when the City of Flint was a customer of the Detroit Water and Sewerage Department (DWSD), the City of Flint participated in WQP monitoring of its distribution system, but ranges were established only for the OCCT at DWSD treatment plants. The attached letter from our Department established the minimum levels for pH and phosphate dosage in 2000.

As the City of Flint water treatment plant has not yet installed such treatment or been given the designation of OCCT these plant tap values have not been established.

However, the City of Flint WTP has continued to maintain the minimum pH value requirement previously established for DWSD

As noted in your Working Group Report to the NDWAC, "Corrosion Control Treatment (CCT) involves the addition of chemicals (e.g. orthophosphates or silicate) to create a barrier between the pipes and the drinking water, or to modify drinking water chemistry (such as pH and hardness) to inhibit the potential for corrosion."

Should you consider the Flint WTP softening process to be OCCT, then the City already continues to comply with the OCCT requirements as the City of Flint has never had 10% or more of compliance tap samples exceed the 15 ppb action level. Even prior to DWSD's established OCCT the City of Flint lead compliance monitoring has never exceeded the 15 ppb action level.

If you have additional questions we would appreciate having them routed through the NDWAC and your Working Group. Thanks.

Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Yanna Lambrinidou [mailto:pnalternatives@yahoo.com]
Sent: Wednesday, September 16, 2015 7:22 PM

To: Busch, Stephen (DEQ); Wurfel, Brad (DEQ)

Subject: Re: question about optimal WQP ranges for Flint's water

Dear Mr. Busch,

Thank you for your quick response. I appreciate the information at, I am sure, a very busy time for you and MDEQ.

Could you please help me understand the following?

When you say that all previous optimal water quality parameter ranges would have been established for the Detroit water utility (not for the City of Flint), do you mean that MDEQ never set optimal water quality parameter ranges *specifically* for Flint before Flint's switch to Flint River water?

It is my impression, please correct me if I'm wrong, that under the LCR, all large systems -- whether they are consecutive or not -- must have optimal water quality parameter ranges designated by states *specifically for them* (at the time when these systems are deemed to have optimized their treatment). Is there language in the LCR I am missing that allows a utility not to have optimal quality parameter ranges established specifically for it?

My second question is this: If the City of Flint had no optimal water quality parameter ranges established specifically for it in the past, how did it achieve LCR compliance? Isn't it the case that utility-specific optimal water quality parameter ranges (and maintenance of these ranges) are required for all large systems to avoid an LCR violation?

I would appreciate your assistance on this matter, as it will shed light on an issue that seems to be very important for EPA's assessment of and upcoming revisions to the LCR.

Kindly,

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To: Yanna Lambrinidou <pnalternatives@yahoo.com>; "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>

Sent: Monday, September 14, 2015 11:05 AM

Subject: RE: question about optimal WQP ranges for Flint's water

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All previous water quality parameter ranges would have been established for the City of Flint's wholesale finished water supplier, the Detroit Water and Sewerage Department, not the City of Flint itself.

As the City of Flint has not yet established optimized corrosion control treatment, the MDEQ is not yet at the point of regulatory requirements where the range of water quality parameters would be set.

Stephen Busch, P.E.
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buschs@michigan.gov

From: Yanna Lambrinidou [<mailto:pnalternatives@yahoo.com>]
Sent: Thursday, September 10, 2015 11:11 AM
To: Wurfel, Brad (DEQ); Busch, Stephen (DEQ)
Subject: question about optimal WQP ranges for Flint's water

Good morning Mr. Wurfel and Mr. Busch,

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To: Yanna Lambrinidou <pnalternatives@yahoo.com>; "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>

Sent: Monday, September 14, 2015 11:05 AM

Subject: RE: question about optimal WQP ranges for Flint's water

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To: Kelley, Jeff[kelley.jeff@epa.gov]
Cc: Arcaute, Francisco[Arcaute.Francisco@epa.gov]; Singer, Joshua[Singer.Joshua@epa.gov]
From: Cassell, Peter
Sent: Mon 9/28/2015 5:55:50 PM
Subject: Re: Flint water interim report - media request

This seems like our desk statement would work for him. We aren't commenting on the memo.

Sent from my iPhone

On Sep 28, 2015, at 7:50 AM, Kelley, Jeff <kelley.jeff@epa.gov> wrote:

Pete

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Arcaute, Francisco
Sent: Monday, September 28, 2015 7:50 AM
To: Singer, Joshua; Cassell, Peter; Kelley, Jeff
Subject: FW: Flint water interim report - media request

Who's on the Flint water issue? This came in late Friday.

Thanks

F

From: Lindsey Smith [<mailto:lmsmi@umich.edu>]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

Hi Anne,

Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

To: Kelley, Jeff[kelley.jeff@epa.gov]; Hyde, Tinka[hyde.tinka@epa.gov]
Cc: Cassell, Peter[cassell.peter@epa.gov]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
From: Poy, Thomas
Sent: Mon 9/28/2015 6:09:46 PM
Subject: RE: Inquiry from Michigan Radio re Flint drinking water

Jeff: The Field Report Is currently being worked on and will be final in a week or two. Using info from the desk statement is good.

EPA is working to finalized the field report on activities related to the citizen who requested assistance from EPA regarding lead in her drinking water. EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to implement corrosion control treatment and will be providing technical assistance to help with that effort.

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Kelley, Jeff
Sent: Monday, September 28, 2015 9:18 AM
To: Poy, Thomas; Hyde, Tinka
Cc: Cassell, Peter; Arcaute, Francisco
Subject: Inquiry from Michigan Radio re Flint drinking water

Michigan Radio is asking:

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Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley

Director, Office of External Communications

U.S. EPA Region 5

ph: 312-353-1159

To: Kelley, Jeff[kelley.jeff@epa.gov]; Hyde, Tinka[hyde.tinka@epa.gov]
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To: Poy, Thomas[poy.thomas@epa.gov]; Henry, Timothy[henry.timothy@epa.gov]
From: Hyde, Tinka
Sent: Mon 9/28/2015 6:17:16 PM
Subject: FW: question about optimal WQP ranges for Flint's water

FYI

From: Yanna Lambrinidou [mailto:pnalternatives@yahoo.com]
Sent: Monday, September 28, 2015 11:30 AM
To: Busch, Stephen (DEQ)
Cc: Benzie, Richard (DEQ); Cook, Pat (DEQ); Prysby, Mike (DEQ); Wurfel, Brad (DEQ); Hyde, Tinka
Subject: Re: question about optimal WQP ranges for Flint's water

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I thank you in advance for your help on this matter and your support of ongoing efforts to assess the LCR carefully and thoroughly.

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Yanna Lambrinidou

Yanna Lambrinidou PhD

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PO Box 6283
Washington DC 20015
P 202.997.1834
B www.dcdwasawatch.blogspot.com

From: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
To: Yanna Lambrinidou <pnalternatives@yahoo.com>
Cc: "Benzie, Richard (DEQ)" <BENZIER@michigan.gov>; "Cook, Pat (DEQ)" <COOKP@michigan.gov>; "Prysby, Mike (DEQ)" <PRYSBYM@michigan.gov>; "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>; "hyde.tinka@epa.gov" <hyde.tinka@epa.gov>
Sent: Friday, September 25, 2015 8:26 AM
Subject: RE: question about optimal WQP ranges for Flint's water

Dr. Lambrinidou,

I'm sorry for the delay in my response. As some of your questions relate more to statewide program implementation I have requested assistance with the response from staff within our central program office. However, these staff were attending and participating in an offsite (American Water Works Association Conference Michigan Section) conference last week.

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Thus when the City of Flint was a customer of the Detroit Water and Sewerage Department (DWSD), the City of Flint participated in WQP monitoring of its distribution system, but ranges were established only for the OCCT at DWSD treatment plants. The attached letter from our Department established the minimum levels for pH and phosphate dosage in 2000.

As the City of Flint water treatment plant has not yet installed such treatment or been given the designation of OCCT these plant tap values have not been established.

However, the City of Flint WTP has continued to maintain the minimum pH value requirement previously established for DWSD

As noted in your Working Group Report to the NDWAC, "Corrosion Control Treatment (CCT) involves the addition of chemicals (e.g. orthophosphates or silicate) to create a barrier between the pipes and the drinking water, or to modify drinking water chemistry (such as pH and hardness) to inhibit the potential for corrosion."

Should you consider the Flint WTP softening process to be OCCT, then the City already continues to comply with the OCCT requirements as the City of Flint has never had 10% or more of compliance tap samples exceed the 15 ppb action level. Even prior to DWSD's established OCCT the City of Flint lead compliance monitoring has never exceeded the 15 ppb action level.

If you have additional questions we would appreciate having them routed through the NDWAC and your Working Group. Thanks.

Stephen Busch, P.E.

MDEQ Lansing District Coordinator

Office of Drinking Water and Municipal Assistance

Lansing and Jackson District Supervisor

517-643-2314

buschs@michigan.gov

From: Yanna Lambrinidou [<mailto:pnalternatives@yahoo.com>]
Sent: Wednesday, September 16, 2015 7:22 PM
To: Busch, Stephen (DEQ); Wurfel, Brad (DEQ)
Subject: Re: question about optimal WQP ranges for Flint's water

Dear Mr. Busch,

Thank you for your quick response. I appreciate the information at, I am sure, a very busy time for you and MDEQ.

Could you please help me understand the following?

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It is my impression, please correct me if I'm wrong, that under the LCR, all large systems -- whether they are consecutive or not -- must have optimal water quality parameter ranges designated by states *specifically for them* (at the time when these systems are deemed to have optimized their treatment). Is there language in the LCR I am missing that allows a utility not to have optimal quality parameter ranges established specifically for it?

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To: Yanna Lambrinidou <pnalternatives@yahoo.com>; "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
Sent: Monday, September 14, 2015 11:05 AM
Subject: RE: question about optimal WQP ranges for Flint's water

Dr. Lambrinidou,

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From: Yanna Lambrinidou [<mailto:pnalternatives@yahoo.com>]
Sent: Thursday, September 10, 2015 11:11 AM
To: Wurfel, Brad (DEQ); Busch, Stephen (DEQ)
Subject: question about optimal WQP ranges for Flint's water

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To: Porter, Andrea[porters.andrea@epa.gov]; Glowacki, Joanna[glowacki.joanna@epa.gov]; King, Carol[King.Carol@epa.gov]
Cc: Deltoral, Miguel[deltoral.miguel@epa.gov]
From: Shoven, Heather
Sent: Mon 9/28/2015 6:38:09 PM
Subject: FYI: question about optimal WQP ranges for Flint's water

From: Poy, Thomas
Sent: Monday, September 28, 2015 1:29 PM
To: Bair, Rita; Damato, Nicholas; Deltoral, Miguel; Crooks, Jennifer; Shoven, Heather
Subject: FW: question about optimal WQP ranges for Flint's water

FYI...

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Hyde, Tinka
Sent: Monday, September 28, 2015 1:17 PM
To: Poy, Thomas; Henry, Timothy
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Should you consider the Flint WTP softening process to be OCCT, then the City already continues to comply with the OCCT requirements as the City of Flint has never had 10% or more of compliance tap samples exceed the 15 ppb action level. Even prior to DWSD's established OCCT the City of Flint lead compliance monitoring has never exceeded the 15 ppb action level.

If you have additional questions we would appreciate having them routed through the NDWAC and your Working Group. Thanks.

Stephen Busch, P.E.

MDEQ Lansing District Coordinator

Office of Drinking Water and Municipal Assistance

Lansing and Jackson District Supervisor

517-643-2314

buschs@michigan.gov

From: Yanna Lambrinidou [Personal Email / Ex. 6]
Sent: Wednesday, September 16, 2015 7:22 PM
To: Busch, Stephen (DEQ); Wurfel, Brad (DEQ)
Subject: Re: question about optimal WQP ranges for Flint's water

Dear Mr. Busch,

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Could you please help me understand the following?

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Kindly,

Yanna Lambrinidou

Yanna Lambrinidou PhD
Parents for Nontoxic Alternatives
PO Box 6283
Washington DC 20015
P 202.997.1834
B www.dawasawatch.blogspot.com

From: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
To: Yanna Lambrinidou [Personal Email / Ex. 6]; "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
Sent: Monday, September 14, 2015 11:05 AM
Subject: RE: question about optimal WQP ranges for Flint's water

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To: Wurfel, Brad (DEQ); Busch, Stephen (DEQ)
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(LCR) workgroup that just completed its recommendations to EPA about the agency's upcoming revisions to the LCR, I am watching with great interest and concern the developments in Flint in relation to lead. I am looking for information on the optimal water quality parameter (WQP) ranges that MDEQ has set for Flint's water. Are those posted online? If so, could you send me the link? If not, could you let me know what they are?

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To: Porter, Andrea[porters.andrea@epa.gov]; Glowacki, Joanna[glowacki.joanna@epa.gov]; King, Carol[King.Carol@epa.gov]
Cc: Deltoral, Miguel[deltoral.miguel@epa.gov]
From: Shoven, Heather
Sent: Mon 9/28/2015 6:38:09 PM
Subject: FYI: question about optimal WQP ranges for Flint's water

From: Poy, Thomas
Sent: Monday, September 28, 2015 1:29 PM
To: Bair, Rita; Damato, Nicholas; Deltoral, Miguel; Crooks, Jennifer; Shoven, Heather
Subject: FW: question about optimal WQP ranges for Flint's water

FYI...

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Hyde, Tinka
Sent: Monday, September 28, 2015 1:17 PM
To: Poy, Thomas; Henry, Timothy
Subject: FW: question about optimal WQP ranges for Flint's water

FYI

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Sent: Monday, September 28, 2015 11:30 AM
To: Busch, Stephen (DEQ)
Cc: Benzie, Richard (DEQ); Cook, Pat (DEQ); Prysby, Mike (DEQ); Wurfel, Brad (DEQ); Hyde, Tinka
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Sent: Friday, September 25, 2015 8:26 AM
Subject: RE: question about optimal WQP ranges for Flint's water

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From: Yanna Lambrinidou [<mailto:pnalternatives@yahoo.com>]

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To: Wurfel, Brad (DEQ); Busch, Stephen (DEQ)

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To: Kelley, Jeff[kelley.jeff@epa.gov]
Cc: Arcaute, Francisco[Arcaute.Francisco@epa.gov]; Singer, Joshua[Singer.Joshua@epa.gov]
From: Cassell, Peter
Sent: Mon 9/28/2015 5:55:50 PM
Subject: Re: Flint water interim report - media request

This seems like our desk statement would work for him. We aren't commenting on the memo.

Sent from my iPhone

On Sep 28, 2015, at 7:50 AM, Kelley, Jeff <kelley.jeff@epa.gov> wrote:

Pete

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Arcaute, Francisco
Sent: Monday, September 28, 2015 7:50 AM
To: Singer, Joshua; Cassell, Peter; Kelley, Jeff
Subject: FW: Flint water interim report - media request

Who's on the Flint water issue? This came in late Friday.

Thanks

F

From: Lindsey Smith [<mailto:lmsmi@umich.edu>]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

Hi Anne,

Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

To: Kelley, Jeff[kelley.jeff@epa.gov]; Hyde, Tinka[hyde.tinka@epa.gov]
Cc: Cassell, Peter[cassell.peter@epa.gov]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
From: Poy, Thomas
Sent: Mon 9/28/2015 6:09:46 PM
Subject: RE: Inquiry from Michigan Radio re Flint drinking water

Jeff: The Field Report Is currently being worked on and will be final in a week or two. Using info from the desk statement is good.

EPA is working to finalized the field report on activities related to the citizen who requested assistance from EPA regarding lead in her drinking water. EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to implement corrosion control treatment and will be providing technical assistance to help with that effort.

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Kelley, Jeff
Sent: Monday, September 28, 2015 9:18 AM
To: Poy, Thomas; Hyde, Tinka
Cc: Cassell, Peter; Arcaute, Francisco
Subject: Inquiry from Michigan Radio re Flint drinking water

Michigan Radio is asking:

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Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

Has the report been finalized? If not, what's the timeframe for doing so? Maybe we can craft a response that explains the status of the report and also include some or all of the information we included in our last desk statement (below)?

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. MDEQ determined that although recent lead monitoring shows Flint has not exceeded the lead action level (15 ug/L), the results indicate Flint does not have optimized corrosion control. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley

Director, Office of External Communications

U.S. EPA Region 5

ph: 312-353-1159

To: Poy, Thomas[poy.thomas@epa.gov]; Henry, Timothy[henry.timothy@epa.gov]
From: Hyde, Tinka
Sent: Mon 9/28/2015 6:17:16 PM
Subject: FW: question about optimal WQP ranges for Flint's water

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Sent: Monday, September 28, 2015 11:30 AM
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Cc: Benzie, Richard (DEQ); Cook, Pat (DEQ); Prysby, Mike (DEQ); Wurfel, Brad (DEQ); Hyde, Tinka
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"hyde.tinka@epa.gov" <hyde.tinka@epa.gov>
Sent: Friday, September 25, 2015 8:26 AM
Subject: RE: question about optimal WQP ranges for Flint's water

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Lansing and Jackson District Supervisor

517-643-2314

buschs@michigan.gov

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Cc: Rowan, Anne[rowan.anne@epa.gov]; Kelley, Jeff[kelley.jeff@epa.gov]; Sarah Hulett[sarahhu@umich.edu]
From: Lindsey Smith
Sent: Mon 9/28/2015 7:18:21 PM
Subject: Re: Flint water interim report - media request

Any luck? I colleague is filing for the national network very shortly and we're trying to understand if corrosion control **is** required, as that memo says it is. Best~

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Chasing down...

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From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

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All the best,

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Lindsey Smith
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Sent: Mon 9/28/2015 6:28:43 PM
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MDEQ Lansing District Coordinator

Office of Drinking Water and Municipal Assistance

Lansing and Jackson District Supervisor

517-643-2314

buschs@michigan.gov

From: Yanna Lambrinidou [<mailto:pnalternatives@yahoo.com>]
Sent: Wednesday, September 16, 2015 7:22 PM
To: Busch, Stephen (DEQ); Wurfel, Brad (DEQ)
Subject: Re: question about optimal WQP ranges for Flint's water

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B www.dccwasawatch.blogspot.com

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To: Yanna Lambrinidou <pnaalternatives@yahoo.com>; "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
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To: Shoven, Heather[shoven.heather@epa.gov]
From: Glowacki, Joanna
Sent: Mon 9/28/2015 6:42:59 PM
Subject: RE: question about optimal WQP ranges for Flint's water

.....
>>>>>>

Thanks for the FYI, heather. You may want to keep Leslie in the loop on germane emails as we get the memo completed.

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

Chicago, Illinois 60604

312-353-3757

312-385-5464 fax

From: Shoven, Heather
Sent: Monday, September 28, 2015 1:38 PM
To: Porter, Andrea; Glowacki, Joanna; King, Carol
Cc: Deltoral, Miguel
Subject: FYI: question about optimal WQP ranges for Flint's water

From: Poy, Thomas
Sent: Monday, September 28, 2015 1:29 PM
To: Bair, Rita; Damato, Nicholas; Deltoral, Miguel; Crooks, Jennifer; Shoven, Heather
Subject: FW: question about optimal WQP ranges for Flint's water

FYI...

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Hyde, Tinka

Sent: Monday, September 28, 2015 1:17 PM
To: Poy, Thomas; Henry, Timothy
Subject: FW: question about optimal WQP ranges for Flint's water

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To: Poy, Thomas[poy.thomas@epa.gov]
Cc: Kelley, Jeff[kelley.jeff@epa.gov]
From: Cassell, Peter
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Subject: Fwd: Flint water interim report - media request

Sent from my iPhone

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From: "Arcaute, Francisco" <Arcaute.Francisco@epa.gov>
Date: September 28, 2015 at 2:33:43 PM CDT
To: "Cassell, Peter" <cassell.peter@epa.gov>
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Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
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From: Hyde, Tinka
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Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

--

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Office (616) 551-0717
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To: Lindsey Smith[lmsmi@umich.edu]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
Cc: Rowan, Anne[rowan.anne@epa.gov]; Sarah Hulett[sarahhu@umich.edu]; Cassell, Peter[cassell.peter@epa.gov]
From: Kelley, Jeff
Sent: Mon 9/28/2015 9:11:55 PM
Subject: RE: Flint water interim report - media request

Lindsey,

EPA is working to finalize the field report. In the meantime, EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Monday, September 28, 2015 2:18 PM
To: Arcaute, Francisco
Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
Subject: Re: Flint water interim report - media request

Any luck? I colleague is filing for the national network very shortly and we're trying to understand if corrosion control **is** required, as that memo says it is. Best~

On Mon, Sep 28, 2015 at 10:06 AM, Arcaute, Francisco <Arcaute.Francisco@epa.gov> wrote:

Chasing down...

Thanks

F

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

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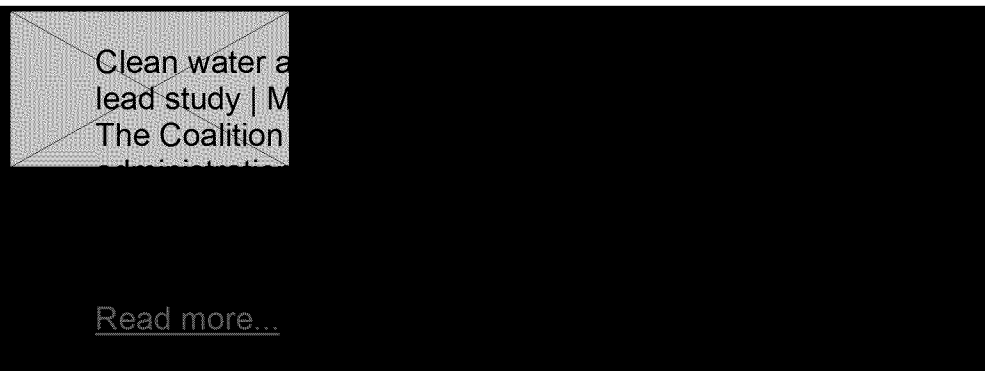
--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

Cc: Job, Charles[Job.Charles@epa.gov]; Marquardt, Steve[marquardt.steve@epa.gov]
To: Hogan, Joanne[Hogan.Joanne@epa.gov]
From: Baltazar, Debbie
Sent: Mon 9/28/2015 9:43:14 PM
Subject: **Deliberative Process / Ex. 5**

Hi Joanne -

Deliberative Process / Ex. 5



To: Poy, Thomas[poy.thomas@epa.gov]; Deltoral, Miguel[deltoral.miguel@epa.gov]; Shoven, Heather[shoven.heather@epa.gov]; Porter, Andrea[portier.andrea@epa.gov]
Cc: Crooks, Jennifer[crooks.jennifer@epa.gov]
From: Crooks, Jennifer
Sent: Mon 9/28/2015 9:00:09 PM
Subject: Re: question about optimal WQP ranges for Flint's water

Tom--interesting that Yanna brings up the modified consecutive system approach to LCR monitoring. Mike Kovach (Benzie's predecessor), chief of CWS section, was so sure that all the Detroit consecutive systems would be below the AL, and he and Jim Cleland thought that the number of samples required for the 2 initial rounds were ridiculously high. So, they came up with this modified approach to the 2 initial sets of 6-month sampling, where the consecutive systems would take a reduced number of Lead samples. (but of course, by decreasing the number of samples, they were increasing the risk of exceeding the AL.) If there 90th percentile exceeded the AL, then the consecutive system would have to sample at the regulatory level. Imagine Mike's surprise when many of the consecutive Detroit systems exceeded the AL, and had to take the regulatory level of samples. The systems for the most part, did not save much, if any, money on the monitoring. Mike was disappointed in the results and said this modified consecutive system approach wasted money and time for systems and the State.

So, my memory of the modified consecutive system approach to LCR monitoring in MI, is that this applied only to the initial 2 6-month sets of lead sampling, 23 years ago. My reading of Steve's email, is that it is still ongoing, so I'm puzzled by his statements.

Jennifer

From: Poy, Thomas
Sent: Monday, September 28, 2015 1:28 PM
To: Bair, Rita; Damato, Nicholas; Deltoral, Miguel; Crooks, Jennifer; Shoven, Heather
Subject: FW: question about optimal WQP ranges for Flint's water

FYI...

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Hyde, Tinka
Sent: Monday, September 28, 2015 1:17 PM
To: Poy, Thomas; Henry, Timothy
Subject: FW: question about optimal WQP ranges for Flint's water

FYI

From: Yanna Lambrinidou [<mailto:pnalternatives@yahoo.com>]
Sent: Monday, September 28, 2015 11:30 AM
To: Busch, Stephen (DEQ)
Cc: Benzie, Richard (DEQ); Cook, Pat (DEQ); Prysby, Mike (DEQ); Wurfel, Brad (DEQ); Hyde, Tinka
Subject: Re: question about optimal WQP ranges for Flint's water

Dear Mr. Busch,

I appreciate your response.

Would you be able to send me a copy of the modified consecutive system approach to lead and copper monitoring that EPA approved?

I am sorry I cannot route my question through the NDWAC or my WG. I am not a NDWAC member, and my WG disbanded when our final report was completed back in August. I apologize if I have caused any confusion. The questions I am posing come solely from me because I am in the process of writing a dissenting opinion about the NDWAC LCR WG recommendations that is due to EPA in a couple of weeks. One of the main reasons I am writing this opinion is because of concerns I have about the LCR's CCT requirement. Your experience with and implementation of the LCR in Flint is extremely helpful to me in deepening my understanding about the LCR's CCT requirement and will undoubtedly allow me to write a more informed discussion.

I thank you in advance for your help on this matter and your support of ongoing efforts to assess the LCR carefully and thoroughly.

Kindly,

Yanna Lambrinidou

Yanna Lambrinidou PhD

Parents for Nontoxic Alternatives
PO Box 6283
Washington DC 20015
P 202.997.1834
B www.dcdwasawatch.blogspot.com

From: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
To: Yanna Lambrinidou <pnalternatives@yahoo.com>
Cc: "Benzie, Richard (DEQ)" <BENZIER@michigan.gov>; "Cook, Pat (DEQ)" <COOKP@michigan.gov>; "Prysby, Mike (DEQ)" <PRYSBYM@michigan.gov>; "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>; "hyde.tinka@epa.gov" <hyde.tinka@epa.gov>
Sent: Friday, September 25, 2015 8:26 AM
Subject: RE: question about optimal WQP ranges for Flint's water

Dr. Lambrinidou,

I'm sorry for the delay in my response. As some of your questions relate more to statewide program implementation I have requested assistance with the response from staff within our central program office. However, these staff were attending and participating in an offsite (American Water Works Association Conference Michigan Section) conference last week.

Michigan has implemented an EPA approved modified consecutive system approach to lead and copper monitoring where a wholesale water supply sells water to other community water systems. In addition, while water quality parameter (WQP) monitoring occurs at both the water treatment plant and in the combined distribution system, a WQP range is only required to be established at the water treatment plant tap after the system has demonstrated optimized corrosion control treatment (OCCT).

Thus when the City of Flint was a customer of the Detroit Water and Sewerage Department (DWSD), the City of Flint participated in WQP monitoring of its distribution system, but ranges were established only for the OCCT at DWSD treatment plants. The attached letter from our Department established the minimum levels for pH and phosphate dosage in 2000.

As the City of Flint water treatment plant has not yet installed such treatment or been given the designation of OCCT these plant tap values have not been established.

However, the City of Flint WTP has continued to maintain the minimum pH value requirement previously established for DWSD

As noted in your Working Group Report to the NDWAC, "Corrosion Control Treatment (CCT) involves the addition of chemicals (e.g. orthophosphates or silicate) to create a barrier between the pipes and the drinking water, or to modify drinking water chemistry (such as pH and hardness) to inhibit the potential for corrosion."

Should you consider the Flint WTP softening process to be OCCT, then the City already continues to comply with the OCCT requirements as the City of Flint has never had 10% or more of compliance tap samples exceed the 15 ppb action level. Even prior to DWSD's established OCCT the City of Flint lead compliance monitoring has never exceeded the 15 ppb action level.

If you have additional questions we would appreciate having them routed through the NDWAC and your Working Group. Thanks.

Stephen Busch, P.E.

MDEQ Lansing District Coordinator

Office of Drinking Water and Municipal Assistance

Lansing and Jackson District Supervisor

517-643-2314

buschs@michigan.gov

From: Yanna Lambrinidou [<mailto:pnalternatives@yahoo.com>]
Sent: Wednesday, September 16, 2015 7:22 PM
To: Busch, Stephen (DEQ); Wurfel, Brad (DEQ)
Subject: Re: question about optimal WQP ranges for Flint's water

Dear Mr. Busch,

Thank you for your quick response. I appreciate the information at, I am sure, a very busy time for you and MDEQ.

Could you please help me understand the following?

When you say that all previous optimal water quality parameter ranges would have been established for the Detroit water utility (not for the City of Flint), do you mean that MDEQ never set optimal water quality parameter ranges *specifically* for Flint before Flint's switch to Flint River water?

It is my impression, please correct me if I'm wrong, that under the LCR, all large systems -- whether they are consecutive or not -- must have optimal water quality parameter ranges designated by states *specifically for them* (at the time when these systems are deemed to have optimized their treatment). Is there language in the LCR I am missing that allows a utility not to have optimal quality parameter ranges established specifically for it?

My second question is this: If the City of Flint had no optimal water quality parameter ranges established specifically for it in the past, how did it achieve LCR compliance? Isn't it the case that utility-specific optimal water quality parameter ranges (and maintenance of these ranges) are required for all large systems to avoid an LCR violation?

I would appreciate your assistance on this matter, as it will shed light on an issue that seems to be very important for EPA's assessment of and upcoming revisions to the LCR.

Kindly,

Yanna Lambrinidou

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B www.dcwasawatch.blogspot.com

From: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
To: Yanna Lambrinidou <pnalternatives@yahoo.com>; "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
Sent: Monday, September 14, 2015 11:05 AM
Subject: RE: question about optimal WQP ranges for Flint's water

Dr. Lambrinidou,

All previous water quality parameter ranges would have been established for the City of Flint's wholesale finished water supplier, the Detroit Water and Sewerage Department, not the City of Flint itself.

As the City of Flint has not yet established optimized corrosion control treatment, the MDEQ is not yet at the point of regulatory requirements where the range of water quality parameters would be set.

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Office of Drinking Water and Municipal Assistance

Lansing and Jackson District Supervisor

517-643-2314

buschs@michigan.gov

From: Yanna Lambrinidou [<mailto:pnalternatives@yahoo.com>]
Sent: Thursday, September 10, 2015 11:11 AM
To: Wurfel, Brad (DEQ); Busch, Stephen (DEQ)
Subject: question about optimal WQP ranges for Flint's water

Good morning Mr. Wurfel and Mr. Busch,

As a member of the EPA National Drinking Water Advisory Council (NDWAC) Lead and Copper Rule (LCR) workgroup that just completed its recommendations to EPA about the agency's upcoming revisions to the LCR, I am watching with great interest and concern the developments in Flint in relation to lead. I am looking for information on the optimal water quality parameter (WQP) ranges that MDEQ has set for Flint's water. Are those posted online? If so, could you send me the link? If not, could you let me know what they are?

Thank you kindly,

Yanna Lambrinidou PhD

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PO Box 6283
Washington DC 20015
P 202.997.1834
B www.dawasawatch.blogspot.com

To: Darman, Leslie[Darman.Leslie@epa.gov]
From: Darman, Leslie
Sent: Mon 9/28/2015 9:01:05 PM
Subject: RE: question about optimal WQP ranges for Flint's water

Sorry - -I mean Michigan.

Leslie Darman

Office of General Counsel

Water Law Office

202-564-5452

From: Darman, Leslie
Sent: Monday, September 28, 2015 5:00 PM
To: Shoven, Heather
Subject: RE: question about optimal WQP ranges for Flint's water

Thanks, Heather. It's helpful to read the email from Flint.

Leslie Darman

Office of General Counsel

Water Law Office

202-564-5452

From: Shoven, Heather
Sent: Monday, September 28, 2015 4:04 PM
To: Darman, Leslie
Subject: FYI: question about optimal WQP ranges for Flint's water

Hi Leslie,

Attorney Client / Ex. 5

Best wishes,

Heather

Heather A. Shoven | Enforcement Team Leader | U.S. Environmental Protection Agency, Region 5

Ground Water and Drinking Water Branch | 77 W. Jackson Blvd (WG-15J) | Chicago, IL 60604 | 312-886-0153

From: Glowacki, Joanna

Sent: Monday, September 28, 2015 1:43 PM

To: Shoven, Heather

Subject: RE: question about optimal WQP ranges for Flint's water

Thanks for the FYI, heather. You may want to keep Leslie in the loop on germane emails as we get the memo completed.

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

Chicago, Illinois 60604

312-353-3757

312-385-5464 fax

From: Shoven, Heather
Sent: Monday, September 28, 2015 1:38 PM
To: Porter, Andrea; Glowacki, Joanna; King, Carol
Cc: Deltoral, Miguel
Subject: FYI: question about optimal WQP ranges for Flint's water

From: Poy, Thomas
Sent: Monday, September 28, 2015 1:29 PM
To: Bair, Rita; Damato, Nicholas; Deltoral, Miguel; Crooks, Jennifer; Shoven, Heather
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Chief, Ground Water and Drinking Water Branch

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To: Asher, Jonathan[Asher.Jonathan@epa.gov]
From: Hannon, Arnita
Sent: Mon 9/28/2015 9:11:47 PM
Subject: RE: Flint Mayor Question
[MeetingwithMayorWallingSept2015.docx](#)

Hi and more than happy to chat Jonathan! We had a wonderful meeting and I am attaching a meeting brief but if we could chat I can capture the really productive exchange and dialogue. The mayor is very forward thinking and is a great leader. He is bringing his community back to a stable state from what we can see. He wants to make the downtown water body more accessible, wrap economic development around opportunities for all segments, and also to meet the challenge posed by recent reports of elevated lead levels in children. A lot of our discussion revolved around the lead issue but he was so grateful for the public education tools provided in follow-up plus the discussion that shed light on our Lead and Copper rule.

On the Brownfields front,

Nonresponsive

Nonresponsive

The Mayor also appreciated guidance on working with the State CW and DW SRF programs.

Nonresponsive

M. Arnita Hannon

Intergovernmental Liaison

Office of Congressional and Intergovernmental Relations

US EPA

1200 Pennsylvania Avenue, NW

Washington, D.C. 20460

202.564.3704 (O)

202.302.9109 (M)

240.602.7118 (C)

202.501.1545 (Fax)

hannon.arnita@epa.gov

From: Asher, Jonathan
Sent: Monday, September 28, 2015 5:01 PM
To: Hannon, Arnita
Subject: Flint Mayor Question

Hi Arnita,

I hope you're well. I heard from Jack that you were present during the meeting with Flint, Michigan's mayor recently? The Administrator is meeting with Sen. Peters on Wednesday and I would love to get an overview of the meeting for the briefing memo.

Would you have time to chat about it soon?

Thanks!

Jonathan

Meetings with Mayor Dayne Walling (Flint, Michigan)
Tuesday, September 22, 2015/ 2:00 – 2:45 PM (Water Supply Issues); 2:45 PM – 3:15 PM (Brownfields);
3528 WJC North **Nonresponsive Conference Code**

EPA Staff: Water Issues: Mark Rupp, Deputy Associate Administrator for Intergovernmental Relations (OCIR); Peter Grevatt, Director, Office of Groundwater and Drinking Water (OW); Lisa Christ, Director, Targeting and Analysis Branch (OGWDW); Region V: Tinka Hyde, Director, Water Division; Timothy Henry, Deputy Director, Water Division; Denise Fortin, Regional Congressional Liaison.

Brownfields: **Nonresponsive**

Nonresponsive

Background:

Water Quality/Supply Concerns:

On September 9, U. S. Representative Dan Kildee (MI) wrote to Administrator McCarthy and the Michigan Department of Environmental Quality (MDEQ) with concerns about high levels of lead in the city of Flint's water transmission lines, and elevated levels of lead in the blood of children. Region V responded on September 15, and among other information, stated that experts from EPA's Office of Research and Development are providing technical assistance to Flint to implement corrosion control improvements. *(Correspondence Attached)*

Brownfields:

Nonresponsive

Profile: City of Flint, MI

Population: 102,434 (2010 census); Median Household Income: \$28,015; Median Family Income: \$31,424; Per Capita income: \$15,733; 22.9% of families and 26.4% of the population: below poverty line.

Next Mayoral Election: 11/3/15

Largest city and county seat of Genesee County in the State of Michigan. Located along the Flint River, 66 miles northwest of Detroit.

Largest city in the Flint/Tri-Cities region of Michigan. Seventh largest city in Michigan. Genesee County comprises the entirety of Flint's metropolitan area, the fourth largest metropolitan area in Michigan with a population of 425,790 in 2010.

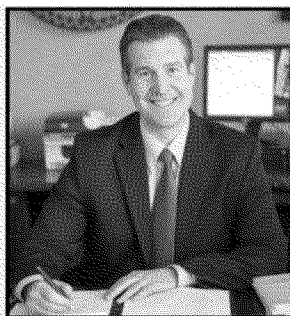
Press Highlights:

**City Council Votes to Support Mayor Dayne Walling's Letter to Governor
Regarding Flint's Water Infrastructure**

During a special presentation to Flint City Council given Monday, September 14, 2015, Flint Mayor Dayne Walling asked Council to support a letter asking Governor Rick Snyder for \$30 Million to improve Flint's aging water infrastructure. Council agreed to support the letter in an 8 to 1 vote. \$10 million of that funding would go directly toward replacing residential home service lines that contain lead pipes and solder. Older homes built before 1986 may have lead in their service lines which can leach into the water over time.

While DPW Director Howard Croft unveiled a water optimization plan which would add a corrosion control agent to the water, Mayor Walling said the long term problem of lead cannot be ignored and that old service lines containing lead need to be addressed now. "The safety of our residents is paramount, water is a basic human right," said Mayor Walling. "No matter what source we use for our water, this problem does not go away until pipes containing lead are removed from our residents' homes."

While the City's own testing has found that lead levels are below the State and Federal action levels, residents with concerns are encouraged to call the Flint Water Treatment Plant to ask for free and independent testing. Residents wishing to receive a free and independent in-home water test can call 810-787-6537 or email flintwater@cityofflint.com. For more information on precautions to take for lead in the home, you can visit the EPA's [website](#) for a comprehensive explanation.



Mayor Dayne Walling (Flint, Michigan)

Dayne Walling is serving in his second term as the Mayor of the City of Flint. His vision of a sustainable 21st Century community has attracted new investments and energy to the difficult challenge of turning Flint around. He is committed to bringing new jobs, making neighborhoods safe, and supporting great schools in Flint and across Michigan. Under his leadership, the City of Flint has adopted its first comprehensive master plan in more than 50 years—and the plan has a focus on sustainability, equity, neighborhoods, youth and the arts.

Mayor Walling serves on the Executive Committee for the Michigan Economic Development Corporation and is Chairman of the national Manufacturing Alliance of Communities in addition to being active in many policy networks including Cities of Service, the Fix the Debt Coalition, Mayors Against Illegal Guns, Mayors for the Freedom to Marry, Michigan Urban Core Mayors, Michigan Municipal League, Michigan Green Communities, Michigan Corps and the New DEAL. His past professional experience includes work for 21st Century Performance LLC, the Genesee County Land Bank's affiliated Genesee Institute, Flint Club, State Voices, the Urban Coalition of Minnesota, DC Mayor Tony Williams and U.S. Congressman Dale Kildee. He has also served as an AmeriCorps member.

Mayor Walling's higher education includes: Bachelor of Arts in Social Relations from James

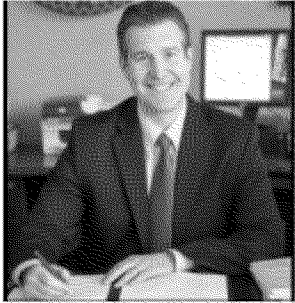
Madison College at Michigan State University; a second Bachelor of Arts in Modern History from St. Peter's College, University of Oxford; and a Master of Arts in Urban Studies from Goldsmith's College, University of London. He also pursued doctoral studies in Geography at the University of Minnesota, with a fellowship from the National Science Foundation. He was a Truman and Rhodes Scholar and is currently a Rodel Fellow with the Aspen Institute. He has taught courses at Kettering University and the University of Michigan-Flint.

He is a Flint native and active in the community. Mayor Walling is chairman of the Flint Downtown Development Authority, president of the Flint Economic Development Corporation, chairman of the Karegonondi Water Authority, and serves on numerous boards including the I-69 International Trade Corridor, Flint & Genesee Chamber of Commerce, and Greater Flint Health Coalition. He is also an active member of Court Street United Methodist Church.

Mayor Walling now lives near Mott Community College with his wife, Dr. Carrie Booth Walling (Assistant Professor of Political Science and International Relations at Albion College, MI) and two sons.

Mayor Dayne Walling to Visit Washington, D.C. to Join President and First Lady Obama for White House Welcome of Pope Francis

Flint Mayor Dayne Walling will be travelling to our nation's capital to join a White House delegation welcoming Pope Francis to the White House during his trip to the United States. Pope Francis will arrive in Washington, D.C. on September 22 and will be greeted the following day during a ceremony hosted by President and First Lady Obama on the White House's South Lawn. Mayor Walling will be joined by City Attorney Pete Bade to represent Flint in a welcome delegation of officials and leaders from around the country.



“As a person of deep Christian faith and strong patriotism, there is no place in the world I would rather be that day than on the South Lawn of the White House with the President and First Lady to welcome the Pope. I am honored to be able to attend this once in a lifetime experience and represent our great City of Flint,” said Walling. The Mayor is a long time, active member of the Court Street Methodist Church.



City Attorney Pete Bade, who will be the Mayor’s guest to the ceremony, is a devout Catholic and a member of St. John Vianney Catholic Church in Flint. Bade says he feels honored and blessed to join Mayor Walling for this historic visit. “In the past two and half years, Pope Francis has captured the world’s attention with his humility and constant message of compassion for the poor,” said Bade.

The welcome ceremony for the Pope is the primary focus of the Mayor’s trip to D.C., but while there he will also be meeting with federal representatives to discuss matters important to the City of Flint.

Additional information on the Mayor’s schedule during his trip will be made available on Monday, September 21. The Mayor and City Attorney’s visit to Washington, D.C. is being paid for by each of them personally and will not cost the City of Flint in any way.

To: Lindsey Smith[lmsmi@umich.edu]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
Cc: Rowan, Anne[rowan.anne@epa.gov]; Sarah Hulett[sarahhu@umich.edu]; Cassell, Peter[cassell.peter@epa.gov]
From: Kelley, Jeff
Sent: Mon 9/28/2015 9:11:55 PM
Subject: RE: Flint water interim report - media request

Lindsey,

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Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

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Sent: Monday, September 28, 2015 2:18 PM
To: Arcaute, Francisco
Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
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Thanks

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Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
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Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

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To: Hannon, Arnita[Hannon.Arnita@epa.gov]
From: Asher, Jonathan
Sent: Mon 9/28/2015 9:28:36 PM
Subject: RE: Flint Mayor Question

Great! This is super helpful. Would there be a good time tomorrow morning-ish that would work to hop on the phone?

Thanks!

Jonathan

From: Hannon, Arnita
Sent: Monday, September 28, 2015 5:12 PM
To: Asher, Jonathan
Subject: RE: Flint Mayor Question

Hi and more than happy to chat Jonathan! We had a wonderful meeting and I am attaching a meeting brief but if we could chat I can capture the really productive exchange and dialogue. The mayor is very forward thinking and is a great leader. He is bringing his community back to a stable state from what we can see. He wants to make the downtown water body more accessible, wrap economic development around opportunities for all segments, and also to meet the challenge posed by recent reports of elevated lead levels in children. A lot of our discussion revolved around the lead issue but he was so grateful for the public education tools provided in follow-up plus the discussion that shed light on our Lead and Copper rule.

On the Brownfields front,

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The Mayor also appreciated guidance on working with the State CW and DW SRF programs.

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Intergovernmental Liaison

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US EPA

1200 Pennsylvania Avenue, NW

Washington, D.C. 20460

202.564.3704 (O)

202.302.9109 (M)

240.602.7118 (C)

202.501.1545 (Fax)

hannon.arnita@epa.gov

From: Asher, Jonathan

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To: Asher, Jonathan[Asher.Jonathan@epa.gov]
From: Hannon, Arnita
Sent: Mon 9/28/2015 9:39:40 PM
Subject: RE: Flint Mayor Question

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On the Brownfields front, the Mayor will keep an eye out for opportunities to apply for everything from Clean-up to Assessment to Job Training grants and also Area-wide Training grants. The mayor has concerns about disadvantaged communities and we want to support his initiatives to address particular challenges in those areas. There is a major project called Chevy Commons that has benefited from BF funding. The RA wants to go for the groundbreaking whenever that might be –around next Spring.

The Mayor also appreciated guidance on working with the State CW and DW SRF programs.

Small note: Mayor Walling was actually in town per a White House invitation to participate in some of the greeting activities for the Pope. He was not able to attend the Joint Session address, but was part of the delegation at the WH that greeted the Pope and this was an invitation from POTUS that brought him to town.

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To: Hannon, Arnita[Hannon.Arnita@epa.gov]
From: Asher, Jonathan
Sent: Mon 9/28/2015 10:33:14 PM
Subject: RE: Flint Mayor Question

Great, will do! Thanks!

From: Hannon, Arnita
Sent: Monday, September 28, 2015 5:40 PM
To: Asher, Jonathan
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Sent from my iPhone

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Cc: Arcaute, Francisco[Arcaute.Francisco@epa.gov]; Rowan, Anne[rowan.anne@epa.gov]; Sarah Hulett[sarahhu@umich.edu]; Cassell, Peter[cassell.peter@epa.gov]
From: Lindsey Smith
Sent: Tue 9/29/2015 2:03:19 PM
Subject: Re: Flint water interim report - media request

Thanks Jeff,

I guess my only follow up is - is it fair to assume corrosion control is, in fact, required of large water systems? I did a lot of reading yesterday and from what I can tell, it is. It would be very helpful if one of you can clarify.

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To: Poy, Thomas[poy.thomas@epa.gov]
Cc: Hyde, Tinka[hyde.tinka@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
From: Kelley, Jeff
Sent: Tue 9/29/2015 2:11:52 PM
Subject: FW: Flint water interim report - media request

Tom, a follow-up question from Michigan Radio...

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Lindsey Smith [mailto:lmsmi@umich.edu]
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Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: [312-353-1159](tel:312-353-1159)

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Monday, September 28, 2015 2:18 PM
To: Arcaute, Francisco
Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
Subject: Re: Flint water interim report - media request

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Chasing down...

Thanks

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Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

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To: Poy, Thomas[poy.thomas@epa.gov]
Cc: Hyde, Tinka[hyde.tinka@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]; Arcaute, Francisco (Arcaute.Francisco@epa.gov)[Arcaute.Francisco@epa.gov]
From: Kelley, Jeff
Sent: Tue 9/29/2015 2:11:52 PM
Subject: FW: Flint water interim report - media request

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Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Lindsey Smith [mailto:lsmsmi@umich.edu]
Sent: Tuesday, September 29, 2015 9:03 AM
To: Kelley, Jeff
Cc: Arcaute, Francisco; Rowan, Anne; Sarah Hulett; Cassell, Peter
Subject: Re: Flint water interim report - media request

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Detection and Evaluation of Elevated Lead Release from Service Lines: A Field Study

(Supporting Information for Manuscript ID: es-2013-003636)

Miguel A. Del Toral^{1*}
Andrea Porter¹
Michael R. Schock²

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²U.S. Environmental Protection Agency, ORD, NRMRL, 26 W. Martin Luther King Dr., Cincinnati, Ohio 45268

*Corresponding author: email: deltoral.miguel@epa.gov

The **supporting** information provides additional background information, summaries and graphics for the underlying data used in the study.

Summary of Supplemental Figures and Tables			
Figures		Tables	
Figure S1	Plumbing Profile Diagram	Table S1	LSL Lengths
Figure S2	Photograph of LSL Bulb	Table S2	Chicago Compliance Data
Figure S3	Photograph of LSL Segment	Table S3	Summary of Samples Collected
Figure S4	Photograph of Corroded Galvanized Pipe	Table S4a	First-draw and Second-draw (45 second flushed) Sample Results
Figure S5	Sample Site Map and Home Age	Table S4b	Comparison of LCR-equivalent 90 th percentile results using alternative first-draw protocols.
Figure S6	Graph of Four Metals for Site 9	Table S5	June Sequential Sampling Results
Figure S7	City B Sampling Instructions	Table S6a	Sept/Oct Sequential Sampling Results Used in Analyses
Figure S8	City B LSL Results	Table S6b	Sept/Oct Supplemental Sequential Sampling Results (Not Used in Analyses)
Figure S9-S40	Sequential Sampling Graphs (Lead)	Table S6c	Summary of stagnation times.
Figure S41	Mar/Apr Sampling Instructions	Table S6d	Seasonal variability effects observed
Figure S42	Mar/Apr Sample Collection and Reporting Form	Table S7	Flushed Sampling Results
Figure S43	June Sampling Instructions and Sample Collection and Reporting Form	Table S8	Summary of Disturbed, Undisturbed and Indeterminate Sites
Figure S44	Sept/Oct Sampling Instructions	Table S9	City B Compliance Data
Figure S45	Sept/Oct Sample Collection and Reporting Form		

Background

The Lead and Copper Rule (LCR) is a treatment technique regulation that requires all public water systems to optimize corrosion control and utilizes tap sampling for lead and copper to determine whether additional actions need to be taken by the system. It is important to note that the sampling conducted under the LCR is not designed to evaluate individual consumers' lead exposure or risk and that the lead action level (AL) was not established as a health-based number. The lead AL is the level which EPA determined in 1991 that systems could feasibly meet, taking into account the available treatment technologies and the cost of those treatment technologies. The lead AL should not be viewed or used as a threshold value to determine whether the water is safe or unsafe to drink, and it should be reiterated that the EPA and CDC have determined that there is no safe level of lead exposure (i.e., no level at which there is not an adverse effect).

Tap sampling conducted under the LCR is intended to measure the amount of lead and copper corrosion that is occurring in public water systems using worst-case site selection and a specified sampling protocol. The sampling protocols in the current LCR were established in 1991, based on the existence of many potential sources of lead throughout the water distribution system, including lead service lines connecting the water main to the homes, leaded-solder used to join copper pipe, and leaded-brass devices, such as meters, brass connectors and shut-off valves, faucets and fixtures. The current LCR sampling requirements are prescriptive and based on the relative significance of lead sources in 1991. The sequential sampling protocol (described below, and in the accompanying paper) that resulted in capturing the highest lead, as well as the sample results themselves, are not allowed to be used in the current compliance calculation.

The LCR utilizes a combination of: worst-case site selection (sites expected to yield the highest lead results); sampling protocols used to capture the highest lead; and repeated sampling at the same sites in order to measure the level of lead corrosion that is occurring throughout the water distribution system. Utilizing this sampling structure allows U.S. EPA to keep the sampling burden on public water systems manageable, while still accomplishing the objectives of the sampling under the LCR. Absent these key components, the number of samples needed to accurately assess system-wide corrosion would necessarily need to increase substantially to accomplish the objectives of the LCR.

The action level for lead is 0.015 mg/L, but is presented here as 15 µg/L for the purpose of using consistent units for the data. An exceedance of the lead AL based on the sampling triggers specific actions that a public water system must undertake to protect public health, such as installing or adjusting corrosion control treatment and providing public education. Additionally, where the corrosion control treatment has proven ineffective at lowering lead levels below the lead AL, the removal of lead service lines is triggered. There are many different corrosion mechanisms and factors that govern lead corrosion. The selection of sampling sites, sampling protocol, and site conditions are essential components for evaluating the level of corrosion that is occurring in the distribution system, regardless of the mechanism(s) or contributing factor(s). It is therefore critically important that the sampling protocol accurately portray the level of corrosion that is occurring.


Lead Service Line and Plumbing Information

As part of the sampling protocol, residents were asked to provide a plumbing profile (figure S1), describing their internal plumbing, and identifying the location of the kitchen tap, and shut-off valve/meter.

Volunteer ID: _____

Home Plumbing and Service Line Diagrams

Below there are 4 diagrams for common household plumbing configurations and the 5th diagram is blank. Please review the diagrams and select the diagram that best matches the plumbing configuration for your home. Each of the diagrams shows where the water service line comes into the home and where the kitchen tap is located. If none of the four diagrams matches your home, use the blank diagram (number 5) to draw where the water service line comes into your home and where your kitchen tap is located. If you do not know where the service line comes into the home, you can note that in your Home Plumbing description below.

Note: Some homes have water meters and some do not. On the diagrams below, if you do not have a water meter, pick the diagram that matches where your service line comes into your home and where the kitchen tap is, and cross out the meter symbol .

Home Plumbing Description: In the space below, please describe your home plumbing as best you can, from the point at which the water service line comes into your home to the location of your kitchen tap (length of pipe, diameter of pipe, pipe material, etc.):

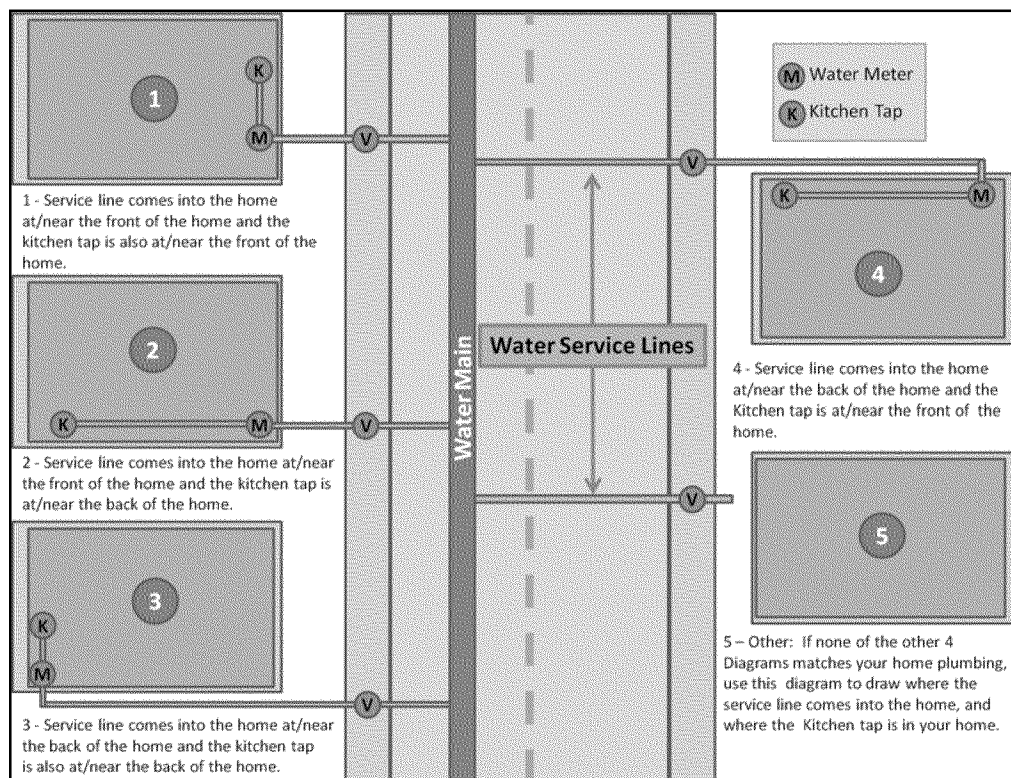


Figure S1: Plumbing Profile Diagram

Table S1 contains a summary of the LSL information for each sampling site. Due to the site-specific plumbing characteristics, the liter which first begins to capture LSL water at each site was expected to be variable, as was the liter which would begin to collect uncontaminated water from the water mains. The study findings regarding whether the current sampling protocol is capturing the corrosion that is occurring are not affected by this limitation.

Site	LSL Length ft (meters)	LSL End Point	Site	LSL Length ft (meters)	LSL End Point
1	89 (27.1)	BFW	22	65 (19.8)	IFW
3	73 (22.3)	IFW	23	66 (20.1)	IFW
4	Unknown	Unknown	24	56 (17.1)	IFW
5	80 (24.4)	IBW	25	70 (21.3)	IFW
6	60 (18.3)	IFW	26	66 (20.1)	IFW
7	59+ (18.0+)	BFW	27	47+ (14.3+)	Unknown
8	57 (17.4)	IFW	28	61+ (18.6+)	Unknown
9	102 (31.1)	BFW	29	159 (48.5)	BFW
10	48+ (14.6+)	IFW	30	49+ (14.9+)	Unknown
11	50 (15.2)	IFW	31	71+ (21.6+)	IFW
12	53 (16.2)	IFW	32	43 (13.1)	IFW
13	49+ (14.9+)	Unknown	33	43+ (13.1+)	IFW
17	58+ (17.7+)	Unknown	34	Unknown	Unknown
18	76 (23.2)	IFW	35	80 (24.4)	BFW
19	63 (19.2)	IFW	36	110 (33.5)	IBW
21	46 (14.0)	IFW	38	51 (15.5)	IFW

IFW = LSL ends just inside the front wall
 IBW = LSL ends just inside the back wall
 BFW = LSL ends at an unknown distance beyond the front wall
 + = Indicates that the LSL was measured from the water main to the front the home, and it is not known whether the LSL extends beyond the front wall of the home.

Table S1: LSL Lengths – The length of the LSLs for most sites were measured and are presented in this table. The LSLs for two sites (site 4 and site 34) were not measured.

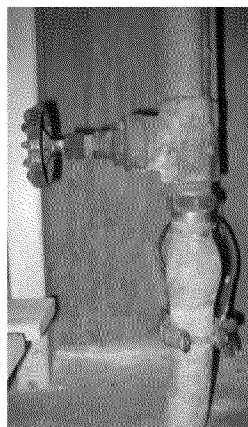


Figure S2: LSL Bulb

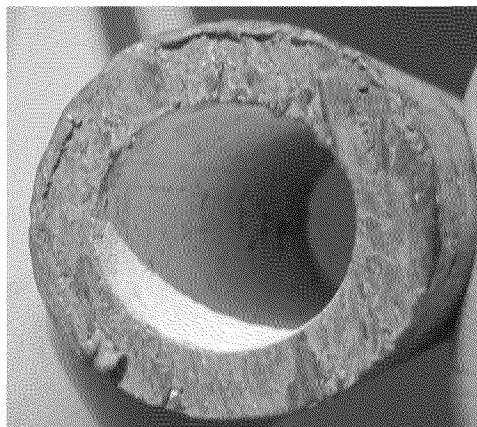


Figure S3: LSL segment (3/4 inch / 1.91 cm diameter)

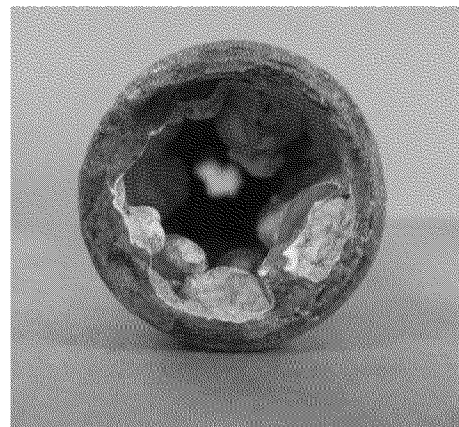


Figure S4: Severely corroded galvanized iron pipe.

Figure S2 shows a typical LSL in Chicago coming up from the foundation of the basement. The lead service line is a dull gray and easily scratched with a key. The soft LSL is typically soldered to the interior (household) plumbing, leaving a characteristic bulb. The LSL can also be connected to household pipe using a brass compression fitting.

Figure S3 is a close-up of a 3/4 inch (1.91 cm) diameter LSL, showing the thickness of a typical LSL.

Figure S4 is a cross-section of a severely corroded galvanized pipe from one of the sample sites. In this photograph the inner diameter is significantly reduced which affects the volume of water that will flow through the pipe in a set amount of time. For homes with corroded galvanized pipe, water will flow slower through the pipe and longer flushing times are generally needed to flush the lead from the plumbing.

City Information

Samples were collected from 32 single-family homes in Chicago with LSLs. Twenty-three homes were in the Jardine Plant service area and nine homes were in the South Plant service area.

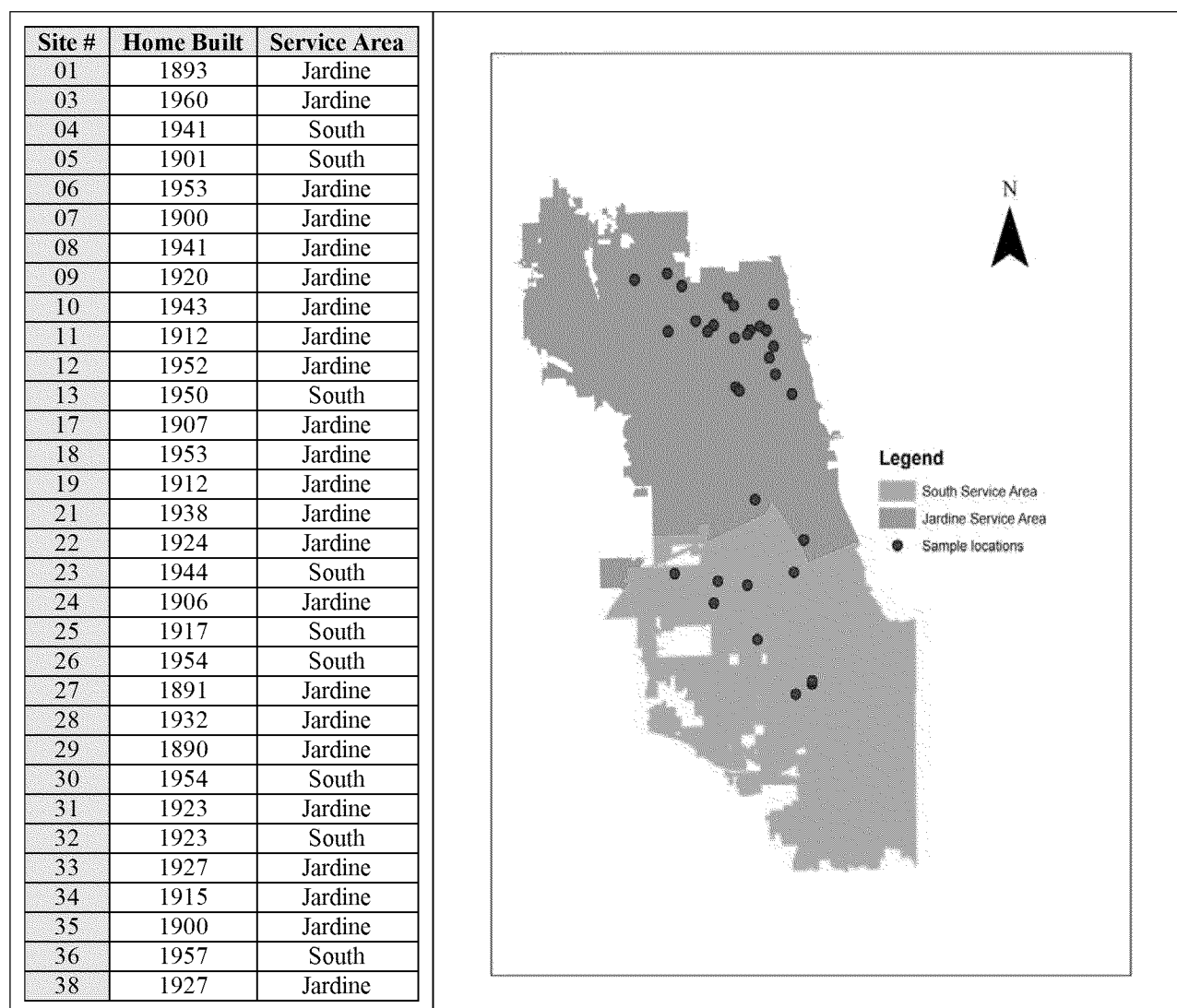


Figure S5: Home age and plant service areas for sampling locations

Table S2 contains a summary of the City's compliance monitoring data for lead. The City exceeded the lead AL only once, during the July-December 1992 compliance monitoring period.

City of Chicago (1992 – 2010) 90 th Percentile Lead Values (µg/L)			
Monitoring Period Begin	Monitoring Period End	Number of Samples	90th Percentile Value
1/1/2008	12/31/2010	50	6
1/1/2005	12/31/2007	50	6
1/1/2002	12/31/2004	50	4
1/1/1999	12/31/2001	50	7
1/1/1999	12/31/1999	50	8
1/1/1998	12/31/1998	53	14
7/1/1997	12/31/1997	100	11
1/1/1997	6/30/1997	100	10
1/1/1993	6/30/1993	100	13
7/1/1992	12/31/1992	120	20
1/1/1992	6/30/1992	100	10

Table S2: City of Chicago 90th Percentile Compliance Values (1992 – 2010)

Laboratory and Analytical Information

All samples were inspected for visible particulates prior to delivery to the laboratory. In light of the significant increase in visible particulate in the final round of monitoring, the presence of fine particulates that would readily dissolve in the nitric acid preservative should not be discounted. Samples collected during the final round of monitoring coincided with the Fire Department's annual valve exercising. Colloidal lead may explain some of the variability in lead levels between the June and Sept/Oct rounds.

Laboratory blanks, laboratory fortified blanks and laboratory fortified samples were run at a frequency of at least one per twenty samples. Laboratory blanks run with the samples did not have any detections of lead above the reporting limit and all Laboratory fortified blanks and laboratory fortified samples had recoveries greater than 90%.

All laboratory instrumentation was inspected and maintained according to Chicago Regional Laboratory maintenance protocols, and calibrated daily according to Chicago Regional Laboratory standard operating procedures.

The Chicago Regional Lab Quality Assurance (QA) Contact performed a data quality assessment on the results based on laboratory blanks, laboratory fortified blanks and matrix spikes. The QA Contact identified no biases in the sample results due to these quality control measurements.

Sampling Summaries

Sample site summary table - A summary table of the types of samples collected at each site, for each sampling protocol is presented in Table S3 below. The highlighted rows for Sites 2,

14, 15, 16 & 37 were confirmed not to have LSLs and Site 20 is the same residence as Site 21 (Kitchen tap and bathroom tap). Following the first round of sampling, Site 20 (bathroom tap) was no longer sampled, to maintain consistency of using kitchen taps across all sites. Only sample results from LSL sites are presented and analyzed in the study paper. The first liter of the sequential samples in June and Sept/Oct also serve as the PF first-draw samples.

Summary of Samples Collected at Each Site							
Site #	Total # Samples	Mar/April		June	Sept/Oct		
		Day 1	Day 2	Day 1	Day 1	Day 2	Day 3
01	34	A, C	B, D	E-12 samples	A	E-14 samples	F, G, H
02	16	A, C	B, D	E-12 samples	DNS	DNS	DNS
03	30	A, C	B, D	E-12 samples	A	E-11 samples	F, G
04	16	A, C	B, D	E-11 samples	DNS	DNS	DNS
05	28	A, C	B, D	E-12 samples	A	E-11 samples	DNS
06	28	A, C	B, D	E-12 samples	A	E-11 samples	DNS
07	35	A, C	B, D	E-12 samples	A	E-15 samples	F, G, H
08	35	A, C	B, D	E-12 samples	A	E-15 samples	F, G, H
09	30	A, C	B, D	E-12 samples	A	E-11 samples	F, G
10	34	A, C	B, D	E-12 samples	A	E-14 samples	F, G, H
11	30	A, C	B, D	E-12 samples	A	E-11 samples	F, G
12	34	A, C	B, D	E-12 samples	A	E-14 samples	F, G, H
13	16	A, C	B, D	DNS	A	E-11 samples	DNS
14	4	A, C	B, D	DNS	DNS	DNS	DNS
15	4	A, C	B, D	DNS	DNS	DNS	DNS
16	4	A, C	B, D	DNS	DNS	DNS	DNS
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19	27	A, C	B, D	E-12 samples	DNS	E-11 samples	DNS
20	4	A, C	B, D	DNS	DNS	DNS	DNS
21	28	A, C	B, D	E-12 samples	A	E-11 samples	DNS
22	28	A, C	B, D	E-12 samples	A	E-11 samples	DNS
23	30	A, C	B, D	E-12 samples	A	E-11 samples	F, G
24	33	A, C	B, D	E-12 samples	A	E-14 samples	F, G
25	16	A, C	B, D	E-12 samples	DNS	DNS	DNS
26	30	A, C	B, D	E-12 samples	A	E-11 samples	F, G
27	33	A, C	B, D	E-12 samples	A	E-14 samples	F, G
28	30	A, C	B, D	DNS	A	E-11 samples	F, G
29	40	A, C	B, D	E-12 samples	A	E-20 samples	F, G, I
30	18	A, C	B, D	DNS	A	E-11 samples	F, G
31	31	A, C	B, D	E-12 samples	A	E-12 samples	F, G
32	28	A, C	B, D	E-12 samples	A	E-11 samples	DNS
33	33	A, C	B, D	E-12 samples	A	E-14 samples	F, G
34	18	A, C	B, D	DNS	A	E-11 samples	F, G
35	30	A, C	B, D	E-12 samples	A	E-11 samples	F, G
36	30	A, C	B, D	E-12 samples	A	E-11 samples	F, G
37	4	A, C	B, D	DNS	DNS	DNS	DNS
38	16	A, C	B, D	E-12 samples	DNS	DNS	DNS

A = NHU First-draw Sample
B = PF First-draw Sample
C = NHU 45-Second Flushed Sample
D = PF 45-Second Flushed Sample
E = Sequential Sample

F = 3-minute Flushed Sample
G = 5-minute Flushed Sample
H = 7-minute Flushed Sample
I = 10-minute Flushed Sample
DNS = Site did not sample

Table S3: Summary of samples collected at each site using each sampling protocol.

First-draw and 45-second flushed samples – Results for first-draw and 45-second flushed samples using the normal household use (NHU) and pre-flushed (PF) sampling protocols are presented in Table S4 below.

In addition to the first-draw samples, a 45-second flush sample was collected by running the water for 45 seconds immediately following the collection of the NHU first-draw and PF first-draw samples during the March/April sampling. Overall, the 45-second flush sample results were higher than the first-draw results, and yielded a higher percentage of results above the lead AL. A total of 32 NHU/45-second flushed and 32 PF/45-second flushed samples were collected, with 6 NHU 45-second flushed results above the lead AL (19%), and 5 PF/45-second flushed results above the AL (16%). The total number of 45-second flush sample results above the lead AL was 11 of 64 (17%); a percentage significantly higher than the first-draw results (2%).

First-draw and 45-second Flushed Sample Lead Results (µg/L)							
Site	A (Mar/Apr)	C (Mar/Apr)	B (Mar/Apr)	D (Mar/Apr)	B (June)	A (Sept/Oct)	B (Sept/Oct)
1	5.93	11.3	5.94	11.9	6.98	7.37	9.19
3	5.60	12.0	6.01	6.71	5.82	10.0	8.28
4	3.25	6.76	3.12	2.56	3.61	DNS	DNS
5	3.84	13.2	4.97	14.1	2.56	3.04	2.76
6	2.31	1.90	2.07	2.13	2.50	2.44	2.25
7	4.74	15.3	4.62	24.9	4.91	5.12	4.03
8	11.2	32.2	7.12	28.0	11.1	17.5	9.24
9	6.82	15.9	9.80	17.7	10.4	15.3	8.29
10	5.46	25.0	3.06	21.6	3.70	4.98	3.46
11	8.08	4.13	3.85	5.30	2.15	3.53	2.96
12	1.99	17.2	9.36	5.45	1.80	2.27	5.35
13	2.68	3.50	3.05	2.94	DNS	2.53	1.88
17	2.83	4.00	2.50	3.70	2.37	2.65	2.73
18	5.98	9.57	6.60	12.4	4.55	5.80	4.75
19	2.59	4.69	1.92	8.27	2.90	DNS	3.01
21	2.81	6.87	2.60	13.8	3.16	4.13	2.99
22	3.91	9.19	3.36	7.93	2.06	3.21	2.29
23	5.97	13.1	5.80	11.5	8.30	9.16	7.02
24	3.33	6.10	3.05	4.98	4.63	7.57	6.62
25	3.41	3.75	ND	ND	4.28	DNS	DNS
26	3.89	3.02	3.12	3.45	3.51	4.53	4.88
27	5.19	4.53	5.36	3.76	8.06	8.30	12.6
28	2.51	4.99	2.47	4.70	DNS	4.26	3.94
29	12.8	13.5	12.1	28.6	13.7	1.9	17.6
30	7.56	12.5	4.72	6.52	DNS	8.39	7.88
31	2.53	3.16	2.92	12.3	4.03	4.67	5.97
32	6.18	2.29	2.90	7.82	3.08	3.36	2.94
33	4.25	16.4	3.51	14.0	5.18	5.55	5.52
34	4.12	1.51	1.88	3.30	DNS	2.07	1.52
35	3.53	5.28	2.04	10.5	2.86	5.02	3.44
36	5.11	11.1	4.56	8.76	5.02	5.88	4.61
38	1.87	1.60	1.66	2.30	1.92	DNS	DNS
Ave	4.76	9.23	4.25	9.74	4.82	5.73	5.45
n	32	32	32	32	28	28	29
A = NHU First-draw Sample B = PF First-draw Sample C = NHU 45-Second Flushed Sample				D = PF 45-Second Flushed Sample DNS = Site did not sample n = number of samples collected			

Table S4a: First-Draw and 45-Second Flushed Sampling Results. Samples that were above the lead AL are in bold, and samples that contained visible particulates are shaded yellow.

Summary of NHU and PF First-Draw Results					
	NHU (Mar/Apr)	PF (Mar/Apr)	PF (June)	NHU (Sept/Oct)	PF (Sept/Oct)
90th %ile Pb Value (µg/L)	8	7	8	10	9
No. of Samples	32	32	28	29	30
No. > AL	0	0	0	2	1

Table S4b: Comparison of LCR-equivalent 90th percentile results using alternative first-draw protocols.

Sequential sampling results (June 2011) – The sequential sampling approach provided a more reliable (volumetric) method for assessing corrosion as compared to a flushed (time-based) approach. Attempting to characterize the flow at each site would require an evaluation of the plumbing materials and dimensions, as well as the condition of the plumbing materials at each site, is not a feasible or reliable protocol for compliance monitoring.

The results of the each liter in the sequential sampling conducted in June are tabulated below in Table S5 by site.

June Sequential Sampling Results by Site/Liter (µg/L)												
Site	Liter											
	1	2	3	4	5	6	7	8	9	10	11	12
01	6.98	10.5	24.8	27.8	27.5	24.3	22.6	17.8	19.5	20.0	21.1	19.6
03	5.82	8.91	9.18	10.2	13.1	14.6	14.4	12.9	12.1	11.6	10.7	9.34
04	3.61	5.56		7.17	8.90	9.41	8.78	8.30	5.14	3.59	3.11	2.96
05	2.56	6.73	14.0	17.3	16.5	9.85	6.72	6.29	6.01	5.73	5.65	5.60
06	2.50	2.23	2.28	2.57	2.44	2.75	2.65	2.59	3.57	5.26	4.67	4.80
07	4.91	5.45	6.28	6.73	7.03	22.9	23.6	19.7	16.3	16.2	16.7	14.6
08	11.1	12.8	21.6	19.7	32.0	33.5	32.2	28.9	32.1	29.7	24.2	18.7
09	10.4	18.0	20.8	20.0	17.9	17.0	15.8	14.7	14.3	12.9	11.5	9.48
10	3.70	5.20	5.39	6.49	14.9	23.6	22.4	21.9	23.9	20.2	20.7	20.9
11	2.15	2.58	2.76	2.97	3.36	3.61	3.73	3.82	4.28	4.11	4.11	4.43
12	1.80	2.95	3.55	6.69	20.9	26.9	25.7	25.1	24.9	22.4	15.9	7.80
17	2.37	8.46	7.12	7.20	7.27	10.5	9.91	9.56	22.6	23.3	24.7	6.30
18	4.55	5.73	5.12	6.43	5.41	5.62	5.5	9.38	14.0	12.1	11.3	11.6
19	2.90	2.62	2.41	8.22	4.58	3.16	4.02	5.07	4.57	4.06	3.31	2.82
21	3.16	3.12	3.08	2.97	13.0	20.6	18.7	16.4	16.3	14.2	6.78	3.21
22	2.06	2.82	5.11	5.42	6.89	12.6	7.80	7.11	6.52	6.55	7.55	7.45
23	8.30	9.06	11.1	13.5	13.2	12.4	11.7	11.0	9.55	7.16	5.69	5.41
24	4.63	6.06	6.43	5.24	5.06	4.91	5.02	8.21	11.9	12.6	11.9	12.2
25	4.28	4.28	4.15	4.23	6.82	10.9	11.3	10.9	10.1	9.68	9.17	8.82
26	3.51	3.83	3.99	3.93	3.86	3.99	4.00	4.01	4.12	4.39	4.30	4.23
27	8.06	9.13	9.84	10.3	10.4	11.4	13.10	13.9	14.2	13.3	12.2	10.1
29	13.7	35.7	18.8	17.7	16.8	16.5	16.6	15.7	14.4	14.1	13.7	13.4
31	4.03	5.03	5.14	6.17	13.1	15.4	15.6	16.3	20.8	18.8	7.91	4.48

June Sequential Sampling Results by Site/Liter (µg/L)												
Site	Liter											
	1	2	3	4	5	6	7	8	9	10	11	12
32	3.08	2.29	2.07	2.28	6.95	15.5	9.91	9.27	8.30	6.12	2.60	1.65
33	5.18	6.85	10.0	7.74	9.61	13.9	16.4	13.5	12.3	13.7	10.7	9.95
35	2.86	7.89	12.9	11.9	9.85	8.59	7.28	6.82	6.23	5.34	5.02	4.83
36	5.02	6.90	7.68	8.46	9.90	9.81	9.51	9.34	9.19	8.93	9.20	9.19
38	1.92	3.04	3.06	3.04	2.91	3.03	3.12	3.07	3.36	3.21	3.04	3.76
Min	1.80	2.23	2.07	2.28	2.44	2.75	2.65	2.59	3.36	3.11	2.60	1.65
Max	13.7	35.7	24.8	27.8	32.0	33.5	32.2	28.9	32.1	29.7	24.7	20.9
Ave	4.83	7.28	8.42	9.07	11.1	13.1	12.4	11.7	12.5	11.7	10.3	8.50
90 th %ile	10.4	12.8	20.8	19.7	20.9	24.3	23.6	21.9	23.9	22.4	21.1	18.7

Table S5: Summary of June Sequential Sampling Results. Samples that were above the lead AL are in bold, and samples that contained visible particulates are shaded yellow.

Sequential Sampling Results (September and October 2011) – The results of the each liter in the sequential sampling conducted in September and October are tabulated below in Table S6 by site. Considerably more sample results contained visible particulates than in previous rounds. The presence of particulates may be a result of the Chicago Fire Department exercising valves during the time period when samples were being collected.

All sites collected at least 11 sequential samples, and some sites with high sample results in June collected additional samples. The additional sequential sample results are included here but were not included in the data analyses, since extra samples were collected only from sites with high lead. A review of the data, including and excluding these additional results was performed to ensure that a bias has not been introduced, and the review indicates that the study findings are not significantly affected by including or excluding the data. With the additional 39 samples included, a total of 80 of 358 sample results (22%) exceeded the lead AL. Using only samples 1 through 11 from each site, a total of 75 of 319 sample results (24%) exceeded the lead AL. For the purpose of the data analyses, the first liter sample from the sequential samples in June and Sept/Oct also serve as the first-draw PF sample.

Sept/Oct Sequential Sampling Results by Site/Liter (µg/L)											
Site	Liter										
	1	2	3	4	5	6	7	8	9	10	11
01	9.19	12.8	21.4	22.3	22.0	19.6	16.5	15.6	14.5	14.2	13.8
03	8.28	5.58	5.17	6.43	8.46	14.9	19.6	16.4	15.4	14.3	17.1
05	2.76	10.8	12.2	10.9	12.3	7.21	5.49	5.24	4.65	5.30	5.40
06	2.25	2.18	3.43	2.37	2.30	2.28	2.81	2.32	2.20	4.16	5.03
07	4.03	4.27	5.74	5.75	9.87	15.1	15.3	15.2	12.1	14.8	13.9
08	9.24	8.95	9.45	11.8	18.3	25.0	22.7	22.3	22.9	19.1	15.8
09	8.29	20.0	18.8	21.3	20.0	17.6	16.3	15.7	14.6	14.8	16.1
10	3.46	6.27	6.23	5.05	14.8	21.4	33.1	29.8	32.4	28.1	27.7
11	2.96	4.05	3.90	3.91	4.30	4.44	4.35	4.71	5.02	4.75	4.47
12	5.35	15.7	16.4	19.8	23.0	30.3	25.7	22.4	19.0	17.3	12.2
13	1.88	7.73	9.01	3.57	2.53	3.85	2.96	2.17	2.85	7.55	5.74
17	2.73	2.38	5.45	4.41	4.07	4.09	3.72	3.42	3.35	3.42	3.17
18	4.75	5.09	4.91	5.53	4.81	8.17	8.61	8.67	11.6	11.6	11.4
19	3.01	3.07	2.75	3.80	3.25	3.37	5.80	6.01	6.15	5.18	3.83
21	2.99	3.35	3.03	3.04	16.8	18.2	16.1	13.2	14.9	15.0	5.24
22	2.29	2.86	5.60	5.39	6.32	8.49	7.42	7.20	6.64	7.09	7.36
23	7.02	8.00	8.99	11.0	12.5	12.1	12.8	11.8	10.5	12.1	10.1
24	6.62	8.84	7.30	6.38	6.45	6.59	6.82	10.6	14.5	13.2	12.8
26	4.88	4.61	4.52	4.46	4.52	4.26	5.18	5.40	5.94	5.72	5.82
27	12.6	12.4	12.2	12.5	12.5	13.1	16.3	18.0	18.9	19.6	17.3
28	3.94	5.58	5.39	5.32	5.39	5.11	5.73	5.65	5.30	5.49	5.55
29	17.6	36.7	18.3	17.3	16.6	15.9	15.9	14.3	16.2	12.8	13.2
30	7.88	7.46	8.67	9.54	9.09	11.0	12.9	22.9	31.3	31.8	33.1
31	5.97	5.82	5.20	6.72	15.6	13.4	17.3	18.5	23.9	16.3	5.70
32	2.94	2.24	2.03	2.22	5.50	17.3	9.42	9.07	8.63	7.64	3.50
33	5.52	6.26	12.8	9.09	12.0	14.1	21.6	16.6	16.5	15.8	14.1
34	1.52	1.72	1.69	1.62	1.73	2.66	2.91	2.87	3.17	2.10	1.90
35	3.44	7.42	14.6	18.9	16.0	12.5	10.1	9.56	7.60	8.18	7.21
36	4.61	5.01	5.51	6.11	13.0	11.6	10.3	10.4	10.9	10.3	9.93
Min	1.52	1.72	1.69	1.62	1.73	2.28	2.81	2.17	2.20	2.10	1.90
Max	17.6	36.7	21.4	22.3	23.0	30.3	33.1	29.8	32.4	31.8	33.1
Ave	5.45	7.83	8.30	8.50	10.5	11.9	12.2	12.0	12.5	12.0	10.6
90 th %ile	9.19	12.8	16.4	18.9	18.3	19.6	21.6	22.3	22.9	19.1	17.1

Table S6a: Summary of September/October sequential sampling results used in data analyses. Samples that were above the lead AL are in bold, and samples that contained visible particulates are shaded yellow.

Sept/Oct Sequential Sampling Results by Site/Liter (µg/L)									
Site	Liter								
	12	13	14	15	16	17	18	19	20
01	13.9	14.1	11.7	--	--	--	--	--	--
03	--	--	--	--	--	--	--	--	--
05	--	--	--	--	--	--	--	--	--
06	--	--	--	--	--	--	--	--	--
07	12.7	9.29	6.52	6.03	--	--	--	--	--
08	12.8	9.34	7.93	6.27	--	--	--	--	--
09	--	--	--	--	--	--	--	--	--
10	--	27.1	21.1	10.7	--	--	--	--	--
11	--	--	--	--	--	--	--	--	--
12	6.98	3.28	2.04	--	--	--	--	--	--
13	--	--	--	--	--	--	--	--	--
17	2.84	2.62	2.59	--	--	--	--	--	--
18	--	--	--	--	--	--	--	--	--
19	--	--	--	--	--	--	--	--	--
21	--	--	--	--	--	--	--	--	--
22	--	--	--	--	--	--	--	--	--
23	--	--	--	--	--	--	--	--	--
24	12.8	15.3	15.4	--	--	--	--	--	--
26	--	--	--	--	--	--	--	--	--
27	16.0	12.8	9.24	--	--	--	--	--	--
28	--	--	--	--	--	--	--	--	--
29	11.1	10.1	9.21	9.01	9.29	8.99	8.77	8.73	8.39
30	--	--	--	--	--	--	--	--	--
31	4.17	--	--	--	--	--	--	--	--
32	--	--	--	--	--	--	--	--	--
33	12.4	11.5	10.1	--	--	--	--	--	--
34	--	--	--	--	--	--	--	--	--
35	--	--	--	--	--	--	--	--	--
36	--	--	--	--	--	--	--	--	--
Min	2.84	2.62	2.04	6.03	9.29	8.99	8.77	8.73	8.39
Max	16.0	27.1	21.1	10.7	9.29	8.99	8.77	8.73	8.39
Ave	10.6	11.5	9.58	8.00	9.29	8.99	8.77	8.73	8.39
90 th %ile	13.9	15.3	15.4	10.7	9.29	8.99	8.77	8.73	8.39

Table S6b: Summary of Supplemental September/October sequential sampling results not used in data analyses. Samples that were above the lead AL are in bold, and samples that contained visible particulates are shaded yellow.

Stagnation Times – Volunteers were asked to record the date and time water was last used, and the date and time when sampling began for each set of samples. Table S6c is a summary table which contains the stagnation times for the sequential samples, which is the amount of time the water sat motionless in the household prior to sample collection.

Sample Collection Stagnation Times			
June Sequential Sampling		Sept/Oct Sequential Sampling	
Site	Stagnation Time (hrs:mins)	Site	Stagnation Time (hrs:mins)
1	6:32	1	8:04
3	7:13	3	7:45
4	7:06	5	7:45
5	7:00	6	8:00
6	9:10	7	7:13
7	7:24	8	6:05
8	7:35	9	7:20
9	8:15	10	***
10	6:06	11	7:08
11	7:00	12	6:26
12	8:06	13	***
17	6:25	17	6:55
18	8:43	18	12:53
19	6:30	19	***
21	6:15	21	6:00
22	6:20	22	6:15
23	7:45	23	9:00
24	8:33	24	7:01
25	8:32	26	7:00
26	7:00	27	7:45
27	7:00	28	8:00
29	***	29	***
31	7:26	30	10:45
32	7:13	31	7:30
33	7:02	32	6:54
35	7:04	33	9:06
36	7:45	34	7:05
38	7:13	35	6:55
		36	8:47
***Volunteer did not record date/time the water was last used, but said it was the day before and was at least 6 hours before sampling.			

Table S6c: Summary of stagnation times for sequential sampling.

Seasonal Variability – Table S6d contains a site by site comparison of lead concentrations.

Seasonal Variability (Spring vs. Fall & Summer vs. Fall)					
First-Draw NHU	Sept/Oct > Mar/Apr	First-Draw PF	Sept/Oct > Mar/Apr	Sequential Samples	Sept/Oct > June
No. of Sample Pairs	28	No. of Sample Pairs	29	No. of Sample Pairs	285
No. Higher in Sept/Oct	19	No. Higher in Sept/Oct	20	No. Higher in Sept/Oct	156
% Higher in Sept/Oct	68%	% Higher in Sept/Oct	69%	% Higher in Sept/Oct	55%
First-Draw Samples: Mar/Apr vs. Sept/Oct (Same Site, Same First-Draw Protocol Compared)					
Sequential Samples: June vs. Sept/Oct (Same Site/Same Liter Compared)					

Table S6d: Seasonal variability effects observed.

Flushed sample results – The results of the flushed samples collected in September and October are tabulated in Table S7 by site. Most sites collected a 3 minute and 5 minute flushed sample. Some sites collected a 3, 5, and 7 minute flushed sample; and one site (site 29) collected a 3, 5, and 10 minute flushed sample, due to the length of the service line (159 ft / 48.5 m).

A flushed sample is collected by fully opening the sample tap and letting the water run for at least five minutes prior to a minimum 6 hour stagnation period. The date and time of the PF was recorded. After the minimum 6 hour stagnation period, and immediately before beginning the flushed sample collection, the date and time were again recorded and used as the start of sampling. The 3, 5, 7 and 10 minutes are measured from that start time, and water was not turned off between samples. For sequential sampling and flushed samples, the water was not turned off between samples.

EPA's current Public Notification Handbook includes instructions that advise residents to run the water between 30 and 45 seconds before collecting water for consumption if the water has not been used for an extended period of time. Running the water (flushing) for 45 seconds resulted in high lead levels at the tap for some sites. The flushed sampling results in this study indicate that EPA should develop a more appropriate flushing guidance, based on whether a home has a LSL or not, and the length of the LSL.

For homes with long LSLs, such as Site 29 (159 ft / 48.5 m), flushing may not be a practical way to reduce lead levels, as lead levels did not decline any further following 3, 5 and 10 minutes of flushing. In the case of site 29, residents would likely have a minimum of approximately 8 to 11 µg/L of lead in the drinking water for all water consumed, and should consider installing a water filter or using bottled water for drinking and cooking.

Flushed Sample Summary Table (µg/L)						
	Mar/Apr 2011	Mar/Apr 2011	Sept/Oct 2011	Sept/Oct 2011	Sept/Oct 2011	Sept/Oct 2011
Site	NHU 45sec	PF 45sec	3min	5min	7min	10min
01	11.3	11.9	6.48	6.56	6.97	
03	12.0	6.71	3.78	2.93		
04	6.76	2.56				
05	13.2	14.1				
06	1.90	2.13				
07	15.3	24.9	5.49	5.46	5.32	
08	32.2	28.0	8.25	5.54	5.71	
09	15.9	17.7	14.3	7.23		
10	25.0	21.6	4.95	4.30	4.09	
11	4.13	5.30	1.75	1.69		
12	17.2	5.45	1.78	1.45	1.33	
13	3.50	2.94				
17	4.00	3.70	2.88	2.76	2.86	
18	9.57	12.4	4.15	3.71		
19	4.69	8.27				
20	2.80	2.54				
21	6.87	13.8				
22	9.19	7.93				
23	13.1	11.5	5.64	4.54		
24	6.10	4.98	6.38	12.4		
25	3.75	ND				
26	3.02	3.45	5.06	3.23		
27	4.53	3.76	15.0	14.1		
28	4.99	4.70	4.82	3.26		
29	13.5	28.6	11.9	10.9		10.8
30	12.5	6.52	5.80	4.82		
31	3.16	12.3	3.78	3.76		
32	2.29	7.82				
33	16.4	14.0	4.40	4.06		
34	1.51	3.30	1.83	1.75		
35	5.28	10.5	5.53	4.03		
36	11.1	8.76	7.19	5.29		
38	1.60	2.30				
NHU 45sec Samples were collected following the collection of the First-Draw NHU samples by running the water for 45 seconds following the collection of the First-Draw NHU sample.						
PF 45sec Samples were collected following the collection of the First-Draw PF samples by running the water for 45 seconds following the collection of the First-Draw PF sample.						
3min, 5min, 7min, and 10min flushed samples were collected after pre-flushing the tap for at least 5 minutes prior to the minimum 6 hour stagnation time during which no water was used in the home. Following the stagnation period and prior to sample collection, residents flushed the tap for 3 min to collect the 3min sample, and then an additional 2min for the 5min sample or 4min for the 7min sample. One site (site 29) had the longest lead service line so this site collected a 3 min, 5 min and 10min flushed sample (water was flushed for an additional 5 minutes following the collection of the 5min sample to collect the 10 min flushed sample). Water was not turned off in between samples to avoid the water hammer effect. Residents were instructed to have the bottles ready to insert under the faucet at the appropriate time.						
Site 20 and Site 21 are the same residence. Site 20 was the upstairs bathroom and Site 21 was the kitchen sink. Note that neither the 45sec NHU nor PF samples from the upstairs tap captured any LSL water, while at least one of the kitchen tap samples did.						

Table S7: Summary table of flushed sample results. Samples that were above the lead AL are in bold, and samples that contained visible particulates are shaded yellow.

Classification of Disturbed LSL Sites – A summary of the classification of each site as “disturbed”, “undisturbed”, or “indeterminate” is presented in Table S8, along with the number of samples collected per site and the number and percentage of sample results above the lead action level. The results from the “disturbed” and “undisturbed” sites are consistent with other research efforts showing that LSL disturbances result in higher lead levels^[1-3].

Disturbed, Undisturbed and Indeterminate Site Summary								
Disturbed Sites	Total Samples Collected	# Samples Above AL (Disturbed)	Undisturbed Sites	Total Samples Collected	# Samples above AL (Undisturbed)	Indeterminate Sites	Total Samples Collected	# Samples above AL (Indeterminate)
01	27	16	03	27	4	12	27	17
05	27	2	04	14	0	21	27	7
07	27	11	06	27	0	33	27	6
08	27	19	11	27	0	---	---	---
09	27	15	13	15	0	---	---	---
10	27	15	18	27	0	---	---	---
17	27	3	19	27	0	---	---	---
27	27	5	22	27	0	---	---	---
28	15	0	23	27	0	---	---	---
29	27	15	24	27	0	---	---	---
30	15	4	25	14	0	---	---	---
31	27	10	26	27	0	---	---	---
35	27	2	32	27	2	---	---	---
---	---	---	34	15	0	---	---	---
---	---	---	36	27	0	---	---	---
---	---	---	38	16	0	---	---	---
Totals	327	117	Totals	371	6	Totals	81	30
% of samples above AL:		36%	% of samples above AL:		2%	% of samples above AL:		37%

Table S8: Summary Table of Disturbed, Undisturbed and Indeterminate Sites, with the number and percentages of sample results above the lead AL for each site and each grouping.

Many direct LSL disturbances are localized to a specific segment of the LSL, and yet some sites have higher lead levels in sample liters over a significant portion of the LSL, not just in the immediate area of the LSL that was disturbed. A probable reason is that, except for the initial liter of water, each subsequent one-liter sample reflects both lead levels within the segment of the plumbing where the water stagnated as well as a contribution from the rest of the plumbing the water travelled through. For example, the fifth liter of water collected from a kitchen tap will not only capture the lead from the segment of LSL where the water stagnated, but it will also collect contributions from the plumbing downstream as the water passes through the remaining LSL and internal plumbing on the way to the kitchen tap. If the sample results only represented the portion of the plumbing where the water stagnated, it would be expected that a variety of metals would be found in the initial liters due to the presence of a variety of metallic plumbing materials and components, but only lead should be found in the LSL samples. In this study, a variety of metals was detected even in samples that represented LSL samples (Figure S6).

Specifically, for Site 9, information provided by the resident indicated that the internal pipe from the LSL to the kitchen tap was galvanized iron pipe. This was confirmed by the co-occurrence of higher levels of zinc and iron within the first liter of water in figure S6. There were no copper pipes in the home, so the presence of the copper is indicative of brass components (faucet, connectors, shut-off valve(s), and the water meter). Trace amounts of iron, zinc and copper are captured in the later liter samples as the water flows through the internal plumbing en route to the kitchen tap, along with traces of iron, potentially from the water main. It can reasonably be

assumed that the same phenomenon occurred for lead. Disturbed areas of the LSL have damaged scale, which can expose water passing through them to fresh lead. Therefore, lead measured in any sample upstream of the damaged area may include lead contributions from the damaged area.

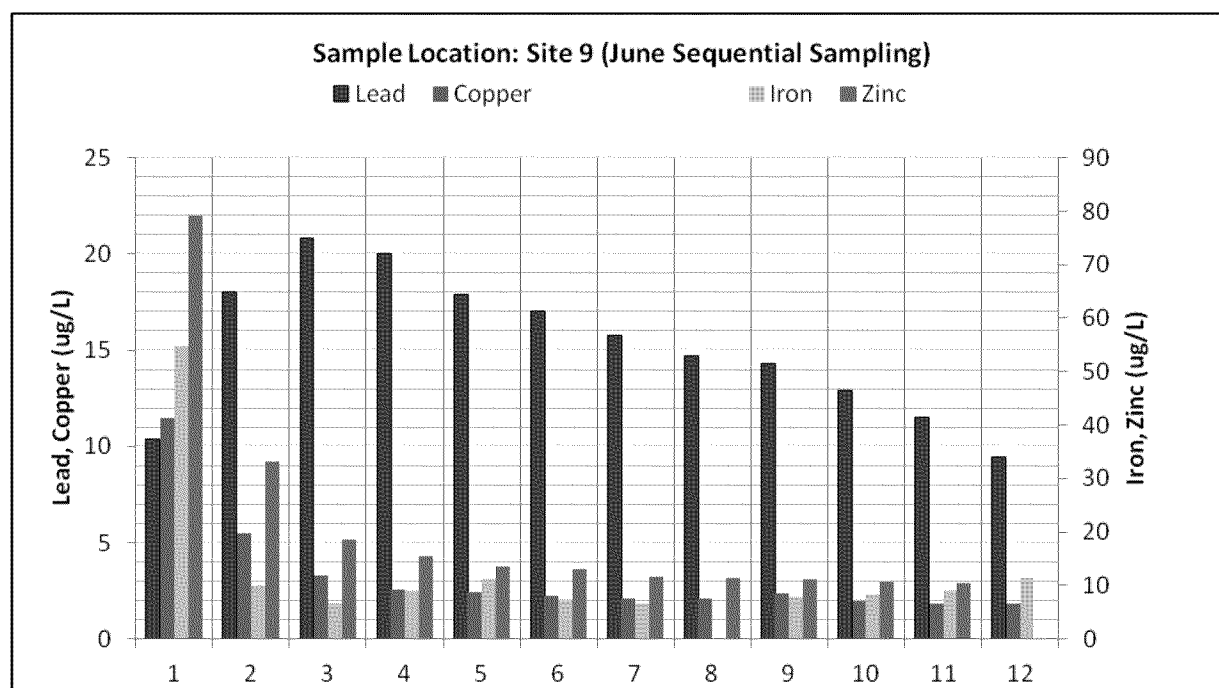


Figure S6: The LSL at Site 9 measures approximately 102 ft (31.1 m) from the water main to the meter. From the meter, there is approximately 13.5 ft (4.1 m) of 1 inch (2.54 cm) galvanized pipe to the kitchen tap.

Variability of lead levels in City B – A second city, City B, exceeded the lead AL during the July-Dec 2010 monitoring period, and was required to comply with the LSL replacement requirements in the LCR. Table S9 contains the compliance monitoring history for City B.

Monitoring Period Begin Date	Monitoring Period End Date	Number of Samples	Lead 90 th Percentile Value (µg/l)
7/1/2011	12/31/2011	101	12
1/1/2011	6/30/2011	130	14
7/1/2010	12/31/2010	105	23
1/1/2009	12/31/2009	51	15
1/1/2008	12/31/2008	58	14
1/1/2007	12/31/2007	50	11
1/1/2006	12/31/2006	60	14
1/1/2005	12/31/2005	54	13
1/1/2004	6/30/2004	104	12
7/1/2003	12/31/2003	108	12
1/1/2002	12/31/2004	50	15
1/1/1999	12/31/1999	55	14
1/1/1998	12/31/1998	50	6
1/1/1997	12/31/1997	50	7
7/1/1996	12/31/1996	50	15
1/1/1996	6/30/1996	50	15
7/1/1992	12/31/1992	50	15
1/1/1992	6/30/1992	50	21

Table S9: City B 90th percentile compliance values (1992 – 2012). Samples that were above the lead AL are in bold.

The sampling instructions presented in Figure S7 are in accordance with the LCR, and were used to collect the LSL samples in City B, which has approximately 25,000 LSLs.

Instructions for Lead Sample Collection	
1	Make sure the faucet used for sample collection is <u>NOT</u> attached to a water softener or any filtering device.
2	At bedtime, make sure the following rule is followed: <ul style="list-style-type: none"> ○ The water for the entire house, not just the faucet that is being used for collection, remains undisturbed for a period of <u>at least six hours</u>. <ul style="list-style-type: none"> ▪ No faucets in the house are used, which includes the bath tub, shower and sinks. ▪ The toilet is not flushed during this time period. ▪ The water is not run for an ice maker.
3	When you are ready to collect the sample: <ul style="list-style-type: none"> ○ Make sure the sample is taken before any other water is used. <ul style="list-style-type: none"> ▪ Open the collection container. ▪ Turn on the cold water. ▪ Allow the water to run until there is a significant change in temperature. ▪ Fill the container to the shoulder. ▪ Do not rinse the bottle out. ▪ <u>Immediately</u> cap the sample container.
4	Fill out the enclosed chain of custody form and survey.
5	Fold and secure the chain of custody form and survey with a rubber band around the outside of the sample container. <ul style="list-style-type: none"> ○ Place the container outside where it was delivered.
❖	A city utilities employee will pick up the sample container. No one will enter your home. The sample must be left outside to be picked up.

Figure S7: LSL sampling instructions provided by City B to residents.

The sampling protocol used for collecting LSL samples (“allow the water to run until there is a significant change in temperature”) can result in some sample results reflecting lead levels from internal plumbing rather than from within the LSLs.

The results from City B are presented below in Figure S8. Similar to the results presented for the study of Chicago, City B’s results show significant variability in LSL lead levels across the system. Following the 2010 lead AL exceedance, the City B took 1,975 LSL samples, with a total of 1,762 results (89%) below the lead AL and 213 results (11%) above the lead AL. LSL results above the AL were significantly variable, ranging from 16 µg/L to 580 µg/L with a large number of sample results in exceedance of 50 µg/L.

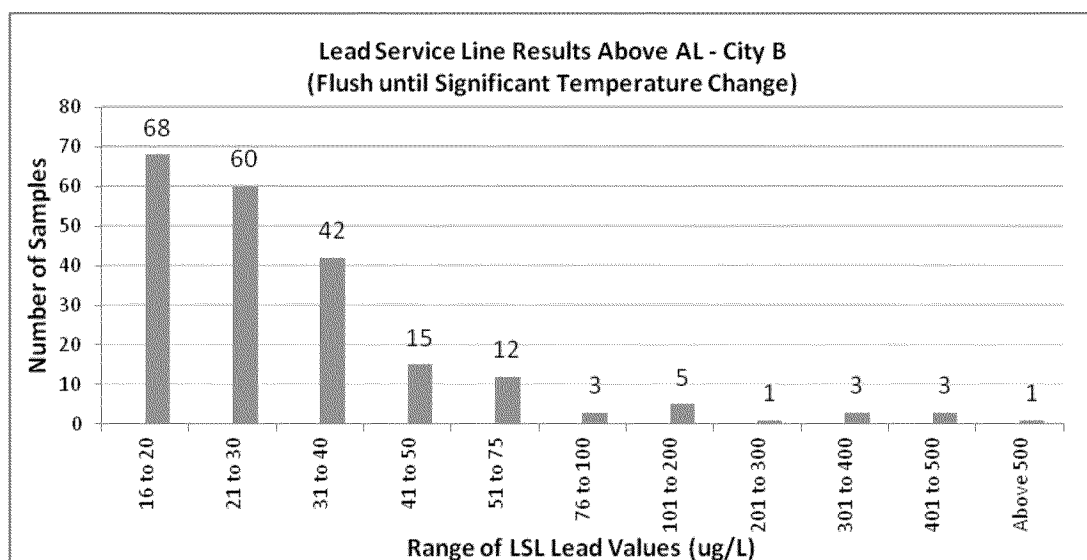
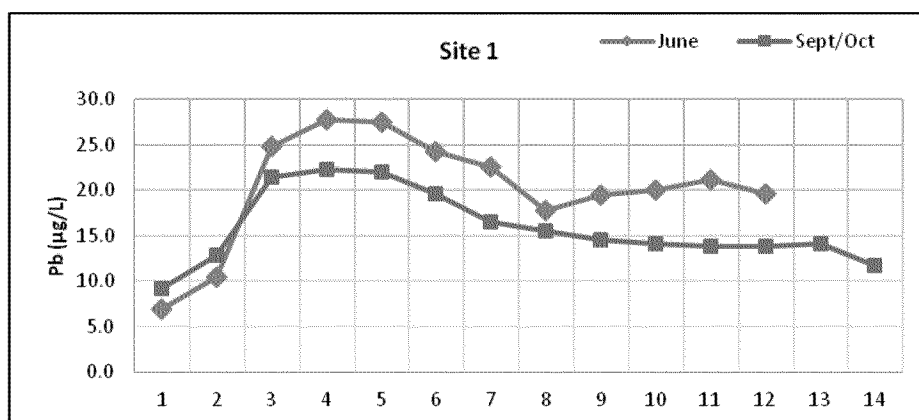


Figure S8: Range of lead values for City B LSL sampling results

Sequential Sampling Summary Graphs –The headers are color-coded based on whether the site has a disturbed LSL (red) or an undisturbed LSL (green). Sites for which this could not be determined (indeterminate sites) are color-coded orange. Water usage information is listed for each site. The samples which contained visible particulates are highlighted yellow, and the results that are above the lead AL are in bold text in the data tables. For sites that conducted sequential sampling in both June and Sept/Oct, the sequential sampling profiles were generally consistent during both sampling periods (see Figures S9 – S40).

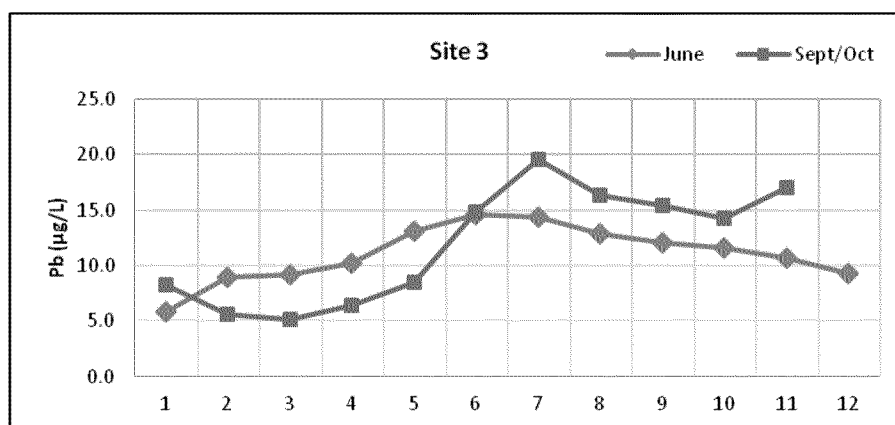
Site 1		
Liter	June	Sept/Oct
1	7.0	9.2
2	11	13
3	25	21
4	28	22
5	28	22
6	24	20
7	23	17
8	18	16
9	20	15
10	20	14
11	21	14
12	20	14
13		14
14		12



Disturbance(s): Water meter installed in 2010
Approximate LSL Length: 89 ft (27.1 m)
Ave Monthly Water Use: 3,444 gal. (13,037 L)

Figure S9: Sequential Lead Results - Sample Site #1 (June and Sept/Oct)

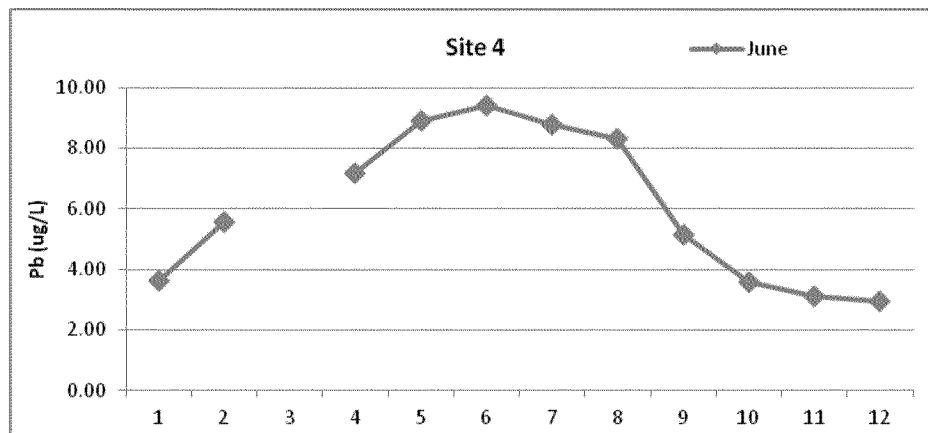
Site 3		
Liter	June	Sept/Oct
1	5.8	8.3
2	8.9	5.6
3	9.2	5.2
4	10	6.4
5	13	8.5
6	15	15
7	14	20
8	13	16
9	12	15
10	12	14
11	11	17
12	9.3	



Disturbance(s): No known disturbance
Approximate LSL Length: 73 ft (22.3 m)
Ave Monthly Water Use: Not metered

Figure S10: Sequential Lead Results - Sample Site #3 (June and Sept/Oct)

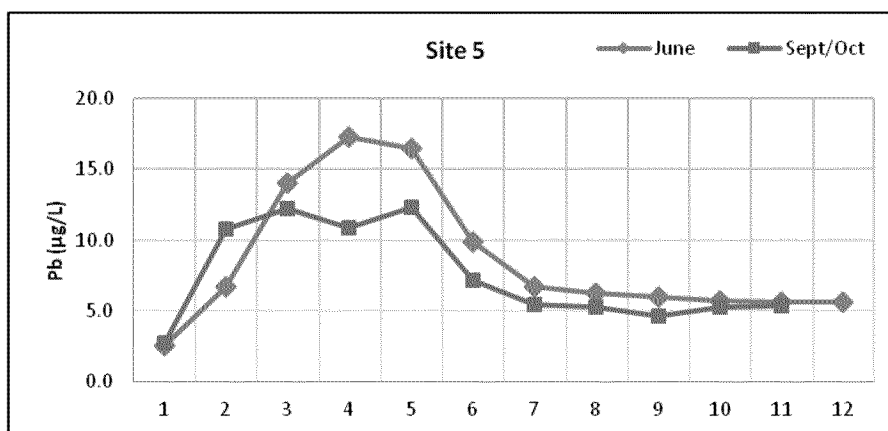
Site 4	
Liter	June
1	3.61
2	5.56
3	
4	7.17
5	8.90
6	9.41
7	8.78
8	8.30
9	5.14
10	3.59
11	3.11
12	2.96



Disturbance(s): No known disturbance
Approximate LSL Length: Unknown
Ave Monthly Water Use: Not metered

Figure S11: Sequential Lead Results - Sample Site #4 (June)

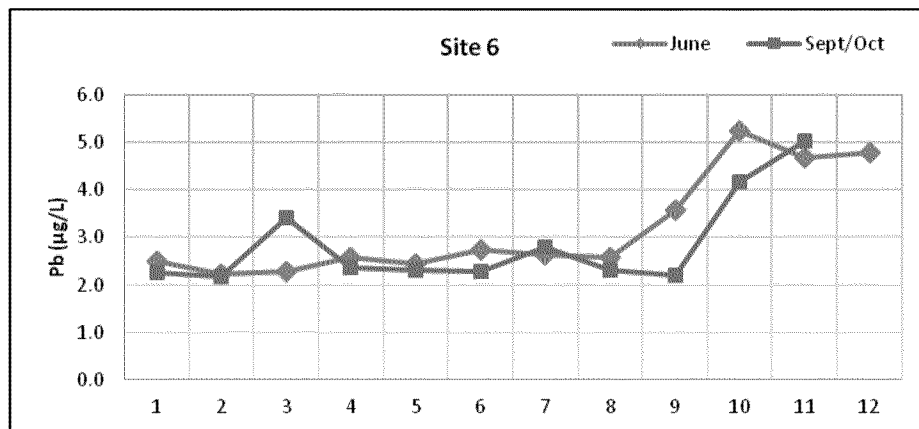
Site 5		
Liter	June	Sept/Oct
1	2.6	2.8
2	6.7	11
3	14	12
4	17	11
5	17	12
6	9.9	7.2
7	6.7	5.5
8	6.3	5.2
9	6.0	4.7
10	5.7	5.3
11	5.7	5.4
12	5.6	



Disturbance(s): Water meter installed in 2011
Approximate LSL Length: 80 ft (24.4 m)
Ave Monthly Water Use: 10,400 gal. (39,368 L)

Figure S12: Sequential Lead Results - Sample Site #5 (June and Sept/Oct)

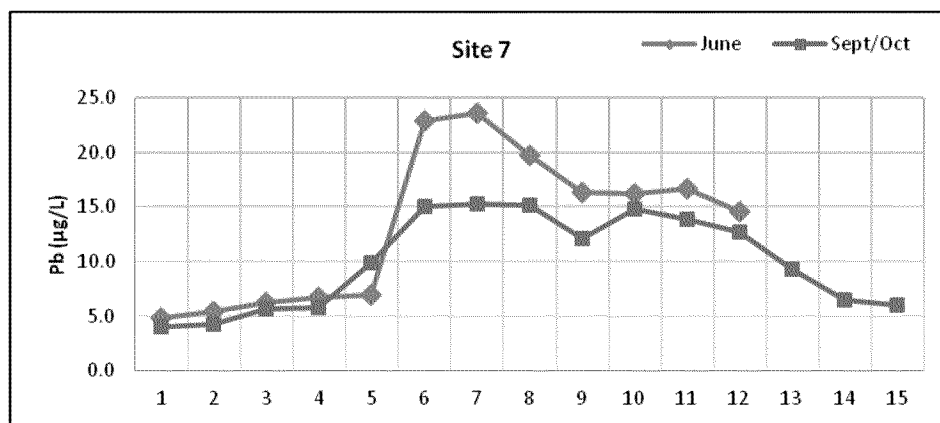
Site 6		
Liter	June	Sept/Oct
1	2.5	2.3
2	2.2	2.2
3	2.3	3.4
4	2.6	2.4
5	2.4	2.3
6	2.8	2.3
7	2.7	2.8
8	2.6	2.3
9	3.6	2.2
10	5.3	4.2
11	4.7	5.0
12	4.8	



Disturbance(s): No known disturbance
Approximate LSL Length: 60 ft (18.3 m)
Ave Monthly Water Use: Not metered

Figure S13: Sequential Lead Results - Sample Site #6 (June and Sept/Oct)

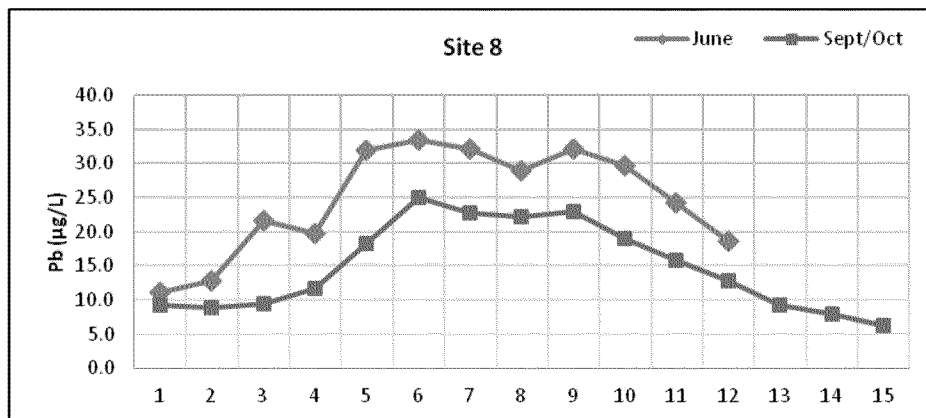
Site 7		
Liter	June	Sept/Oct
1	4.9	4.0
2	5.5	4.3
3	6.3	5.7
4	6.7	5.8
5	7.0	9.9
6	23	15
7	24	15
8	20	15
9	16	12
10	16	15
11	17	14
12	15	13
13		9.3
14		6.5
15		6.0



Disturbance(s): Street excavation, potential installation of Cu whip at service connection in 2008
Approximate LSL Length: 59+ ft (18.0+ m)
Ave Monthly Water Use: Not metered

Figure S14: Sequential Lead Results - Sample Site #7 (June and Sept/Oct)

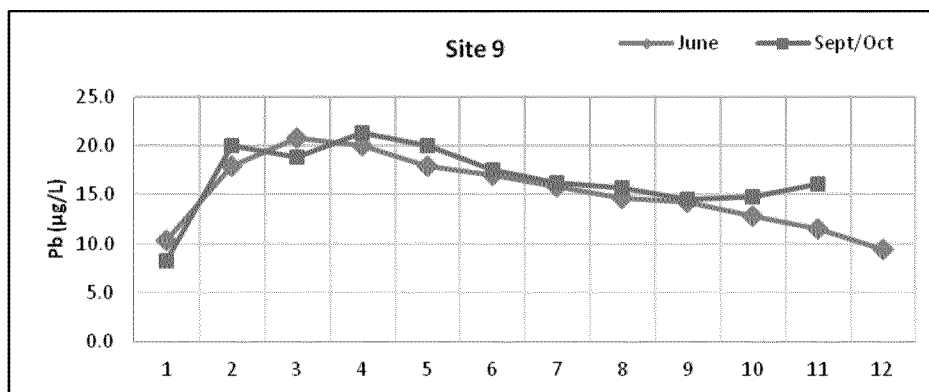
Site 8		
Liter	June	Sept/Oct
1	11	9.2
2	13	9.0
3	22	10
4	20	12
5	32	18
6	34	25
7	32	23
8	29	22
9	32	23
10	30	19
11	24	16
12	19	13
13		9.3
14		7.9
15		6.3



Disturbance(s): Leak in parkway, repaired roundway in 2005.
Approximate LSL Length: 57 ft (17.4 m)
Ave Monthly Water Use: Not metered

Figure S15: Sequential Lead Results - Sample Site #8 (June and Sept/Oct)

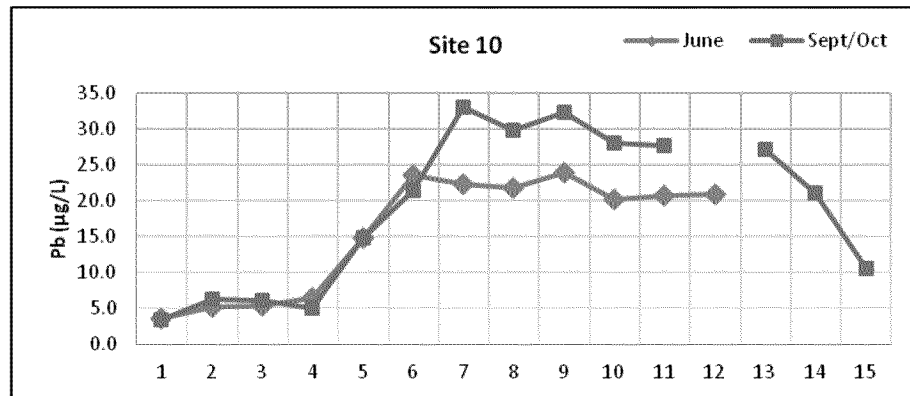
Site 9		
Liter	June	Sept/Oct
1	10	8.3
2	18	20
3	21	19
4	20	21
5	18	20
6	17	18
7	16	16
8	15	16
9	14	15
10	13	15
11	12	16
12	10	



Disturbance(s): Water meter installed in 2008.
Approximate LSL Length: 102 ft (31.1 m)
Ave Monthly Water Use: 3,190 (12,075 L) – In Sept 2011, usage was 24,000 gal. (90,850 L) due to hose left running for one or more days. In calculating the overall average, the Sept 2010 value of 8,000 gal. (30,283 L) was also used for Sept 2011 instead of the 24,000 gal. (90,850 L) value.

Figure S16: Sequential Lead Results - Sample Site #9 (June and Sept/Oct)

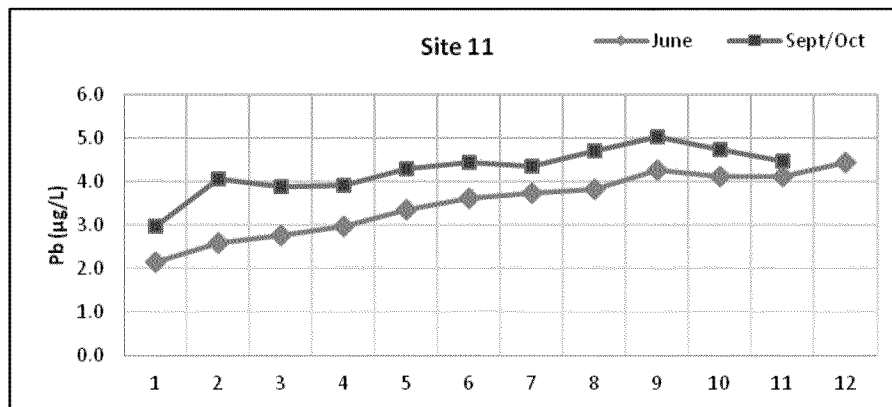
Site 10		
Liter	June	Sept/Oct
1	3.7	3.5
2	5.2	6.3
3	5.4	6.2
4	6.5	5.1
5	15	15
6	24	21
7	22	33
8	22	30
9	24	32
10	20	28
11	21	28
12	21	
13		27
14		21
15		11



Disturbance(s): Service leak repair, water meter installed in 2009.
Approximate LSL Length: 48+ ft (14.6 m)
Ave Monthly Water Use: 1,826 gal. (6,912 L)

Figure S17: Sequential Lead Results - Sample Site #10 (June and Sept/Oct)

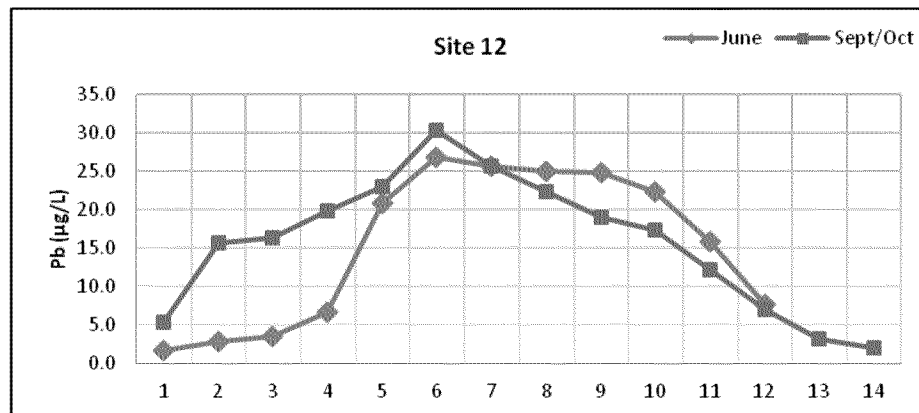
Site 11		
Liter	June	Sept/Oct
1	2.2	3.0
2	2.6	4.1
3	2.8	3.9
4	3.0	3.9
5	3.4	4.3
6	3.6	4.4
7	3.7	4.4
8	3.8	4.7
9	4.3	5.0
10	4.1	4.8
11	4.1	4.5
12	4.4	



Disturbance(s): No known disturbance
Approximate LSL Length: 50 ft (15.2 m)
Ave Monthly Water Use: Not metered

Figure S18: Sequential Lead Results - Sample Site #11 (June and Sept/Oct)

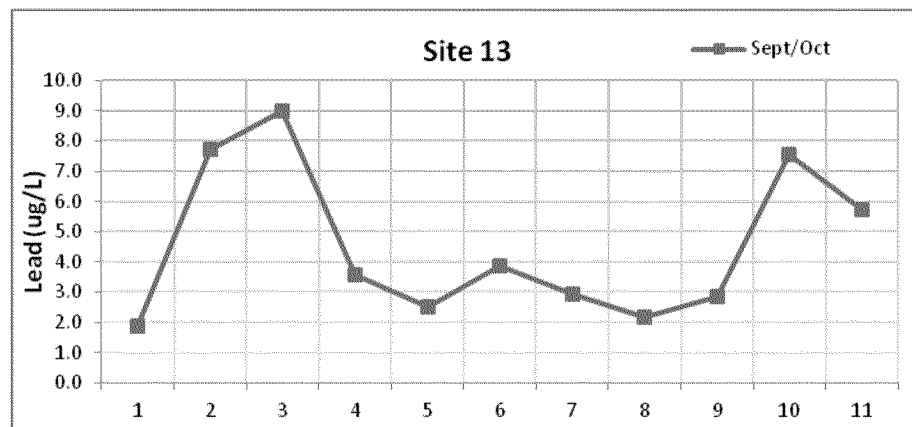
Site 12		
Liter	June	Sept/Oct
1	1.8	5.4
2	3.0	16
3	3.6	16
4	6.7	20
5	21	23
6	27	30
7	26	26
8	25	22
9	25	19
10	22	17
11	16	12
12	7.8	7.0
13		3.3
14		2.0



Disturbance(s): Indeterminate
Approximate LSL Length: 53 (16.2 m)
Ave Monthly Water Use: Not metered

Figure S19: Sequential Lead Results - Sample Site #12 (June and Sept/Oct)

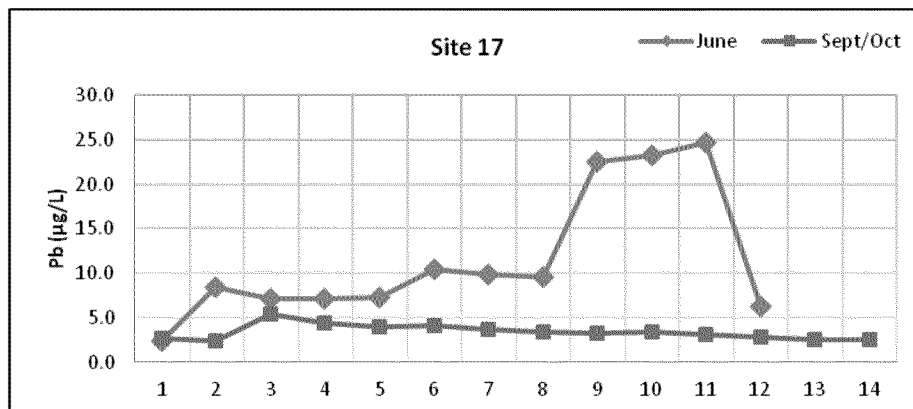
Site 13	
Liter	Sept/Oct
1	1.9
2	7.7
3	9.0
4	3.6
5	2.5
6	3.9
7	3.0
8	2.2
9	2.9
10	7.6
11	5.7



Disturbance(s): No known disturbance
Approximate LSL Length: 49+ ft (4.9 m)
Ave Monthly Water Use: Not metered

Figure S20: Sequential Lead Results - Sample Site #13 (Sept/Oct)

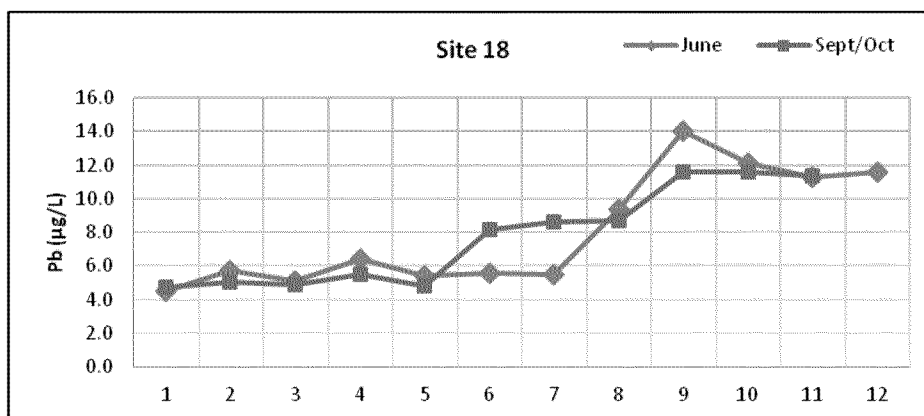
Site 17		
Liter	June	Sept/Oct
1	2.4	2.7
2	8.5	2.4
3	7.1	5.5
4	7.2	4.4
5	7.3	4.1
6	11	4.1
7	9.9	3.7
8	9.6	3.4
9	23	3.4
10	23	3.4
11	25	3.2
12	6.3	2.8
13		2.6
14		2.6



Disturbance(s): Meter replacement in 2008.
Approximate LSL Length: 58+ ft (17.7+ m)
Ave Monthly Water Use: 9,772 gal. (36,991 m)

Figure S21: Sequential Lead Results - Sample Site #17 (June and Sept/Oct)

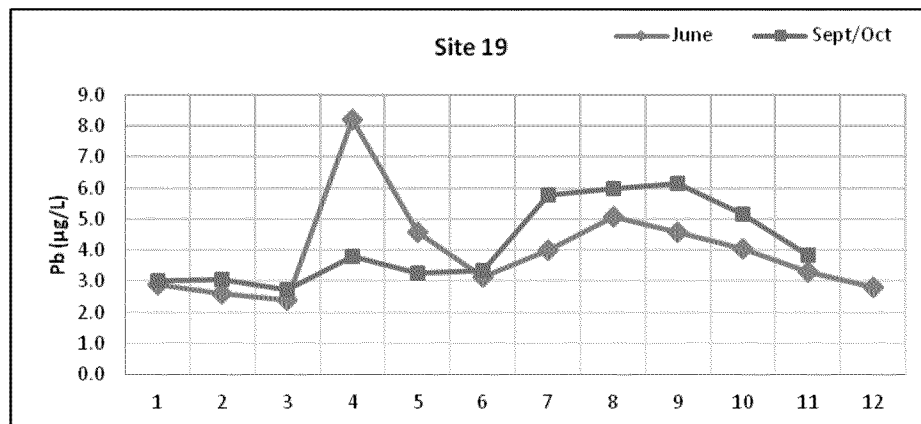
Site 18		
Liter	June	Sept/Oct
1	4.6	4.8
2	5.7	5.1
3	5.1	4.9
4	6.4	5.5
5	5.4	4.8
6	5.6	8.2
7	5.5	8.6
8	9.4	8.7
9	14	12
10	12	12
11	11	11
12	12	



Disturbance(s): No known disturbance
Approximate LSL Length: 76 ft (23.2 m)
Ave Monthly Water Use: Not metered

Figure S22: Sequential Lead Results - Sample Site #18 (June and Sept/Oct)

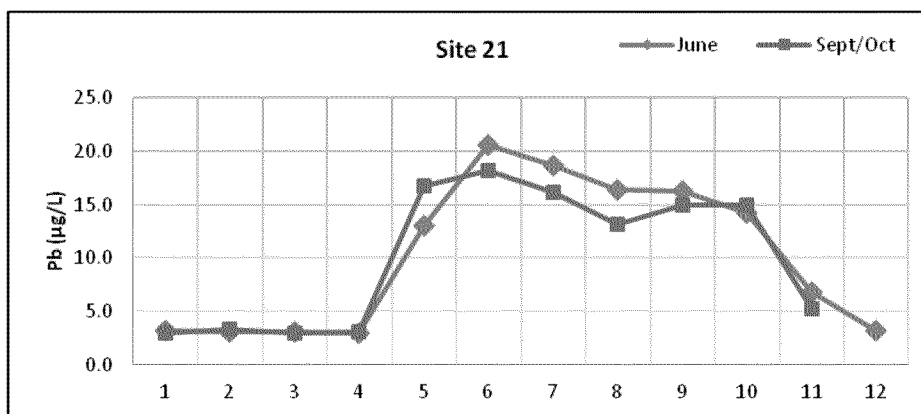
Site 19		
Liter	June	Sept/Oct
1	2.9	3.0
2	2.6	3.1
3	2.4	2.8
4	8.2	3.8
5	4.6	3.3
6	3.2	3.4
7	4.0	5.8
8	5.1	6.0
9	4.6	6.2
10	4.1	5.2
11	3.3	3.8
12	2.8	



Disturbance(s): No known disturbance
Approximate LSL Length: 63 ft (19.2 m)
Ave Monthly Water Use: Not metered

Figure S23: Sequential Lead Results - Sample Site #19 (June and Sept/Oct)

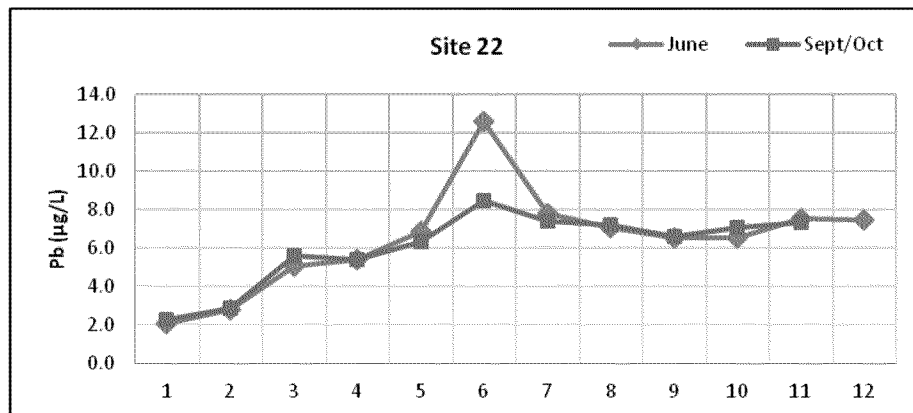
Site 21		
Liter	June	Sept/Oct
1	3.2	3.0
2	3.1	3.4
3	3.1	3.0
4	3.0	3.0
5	13	17
6	21	18
7	19	16
8	16	13
9	16	15
10	14	15
11	7.0	5.2
12	3.2	



Disturbance(s): Indeterminate
Approximate LSL Length: 46 ft (14.0 m)
Ave Monthly Water Use: Not metered

Figure S24: Sequential Lead Results - Sample Site #21 (June and Sept/Oct)

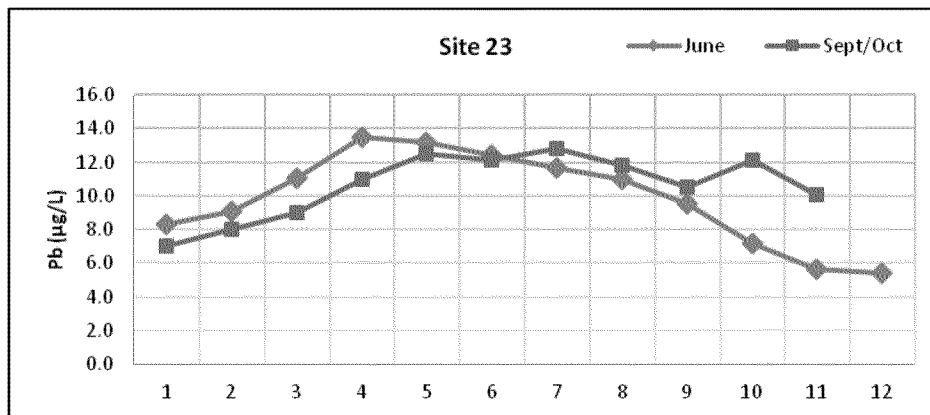
Site 22		
Liter	June	Sept/Oct
1	2.1	2.3
2	2.8	2.9
3	5.1	5.6
4	5.4	5.4
5	6.9	6.3
6	13	8.5
7	7.8	7.4
8	7.1	7.2
9	6.5	6.6
10	6.6	7.1
11	7.6	7.4
12	7.5	



Disturbance(s): No known disturbance
Approximate LSL Length: 65 ft (19.8 m)
Ave Monthly Water Use: Not metered

Figure S25: Sequential Lead Results - Sample Site #22 (June and Sept/Oct)

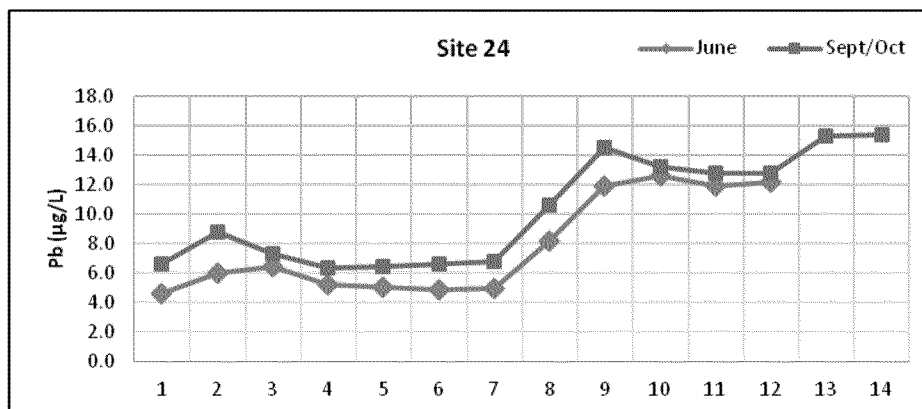
Site 23		
Liter	June	Sept/Oct
1	8.3	7.0
2	9.1	8.0
3	11	9.0
4	14	11
5	13	13
6	12	12
7	12	13
8	11	12
9	9.6	11
10	7.2	12
11	5.7	10
12	5.4	



Disturbance(s): No known disturbance
Approximate LSL Length: 66 ft (20.1 m)
Ave Monthly Water Use: Not metered

Figure S26: Sequential Lead Results - Sample Site #23 (June and Sept/Oct)

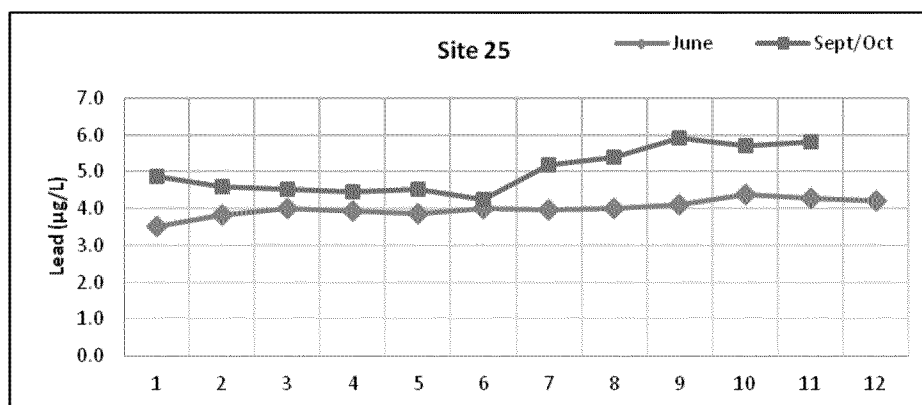
Site 24		
Liter	June	Sept/Oct
1	4.6	6.6
2	6.1	8.8
3	6.4	7.3
4	5.2	6.4
5	5.1	6.5
6	4.9	6.6
7	5.0	6.8
8	8.2	11
9	12	15
10	13	13
11	12	13
12	12	13
13		15
14		15



Disturbance(s): No known disturbance
Approximate LSL Length: 56 ft (17.1 m)
Ave Monthly Water Use: Not metered

Figure S27: Sequential Lead Results - Sample Site #24 (June and Sept/Oct)

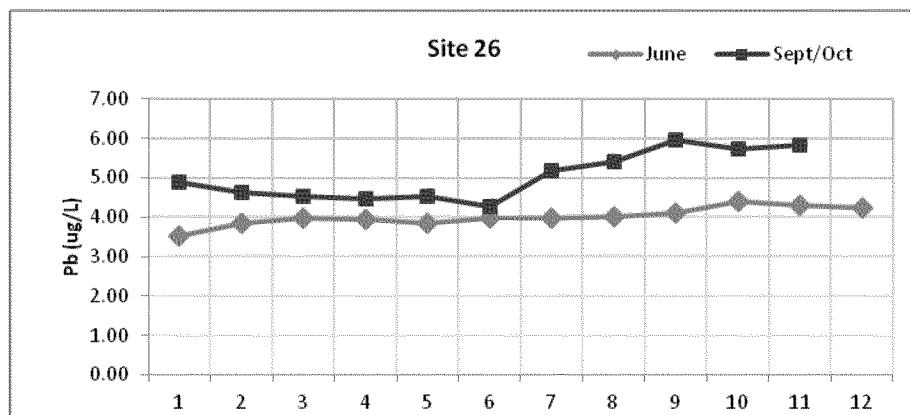
Site 25		
Liter	June	Sept/Oct
1	3.5	4.9
2	3.8	4.6
3	4.0	4.5
4	3.9	4.5
5	3.9	4.5
6	4.0	4.3
7	4.0	5.2
8	4.0	5.4
9	4.1	5.9
10	4.4	5.7
11	4.3	5.8
12	4.2	



Disturbance(s): No known disturbance
Approximate LSL Length: 70 ft (21.3 m)
Ave Monthly Water Use: Not metered

Figure S28: Sequential Lead Results - Sample Site #25 (June and Sept/Oct)

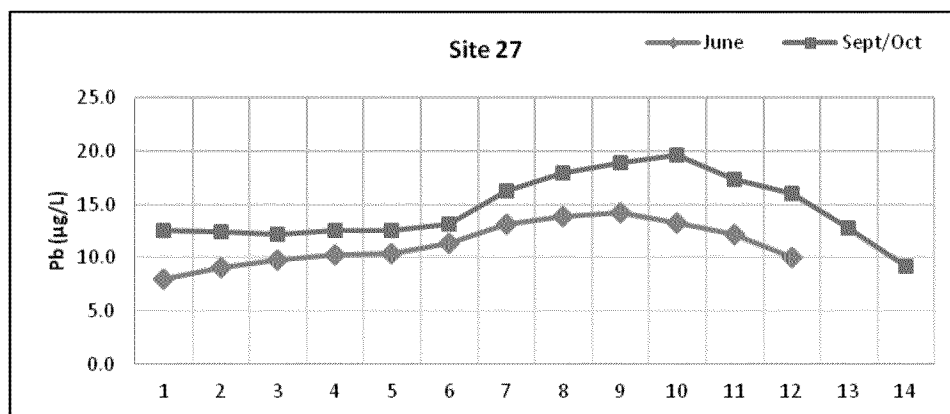
Site 26		
Liter	June	Sept/Oct
1	3.5	4.9
2	3.8	4.6
3	4.0	4.5
4	3.9	4.5
5	3.9	4.5
6	4.0	4.3
7	4.0	5.2
8	4.0	5.4
9	4.1	5.9
10	4.4	5.7
11	4.3	5.8
12	4.2	



Disturbance(s): No known disturbance
Approximate LSL Length: 66 ft (20.1 m)
Ave Monthly Water Use: Not metered

Figure S29: Sequential Lead Results - Sample Site #26 (June and Sept/Oct)

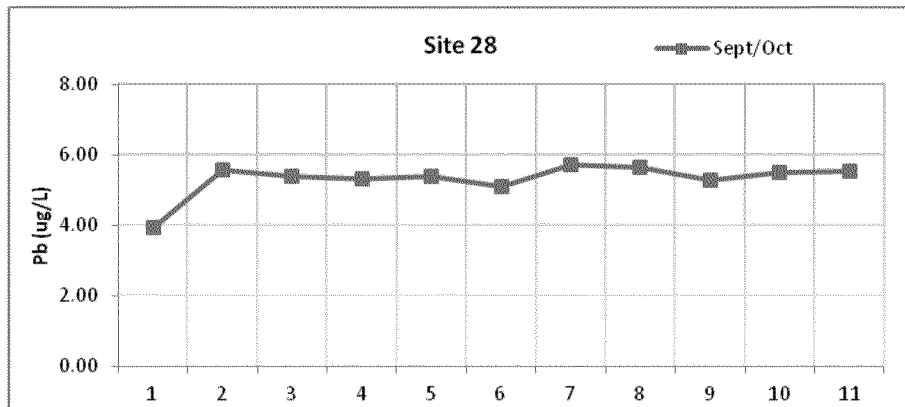
Site 27		
Liter	June	Sept/Oct
1	8.1	13
2	9.1	12
3	9.8	12
4	10	13
5	10	13
6	11	13
7	13	16
8	14	18
9	14	19
10	13	20
11	12	17
12	10	16
13		13
14		9.2



Disturbance(s): Meter replacement in 2010.
Approximate LSL Length: 47+ ft (14.3 m)
Ave Monthly Water Use: 4267 gal. (16,152 L)

Figure S30: Sequential Lead Results - Sample Site #27 (June and Sept/Oct)

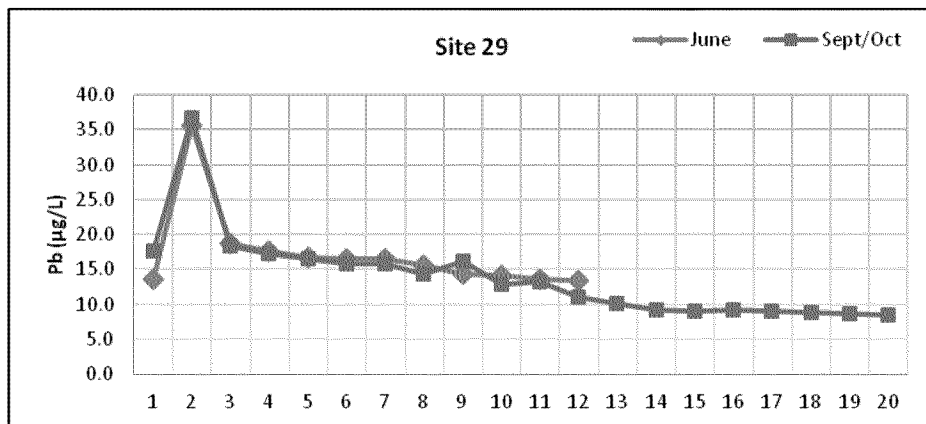
Site 28	
Liter	Sept/Oct
1	3.9
2	5.6
3	5.4
4	5.3
5	5.4
6	5.1
7	5.7
8	5.7
9	5.3
10	5.5
11	5.6



Disturbance(s): Meter replacement in 2009.
Approximate LSL Length: 61+ ft (18.6+ m)
Ave Monthly Water Use: 4273 gal. (16,175 L)

Figure S31: Sequential Lead Results - Sample Site #28 (Sept/Oct)

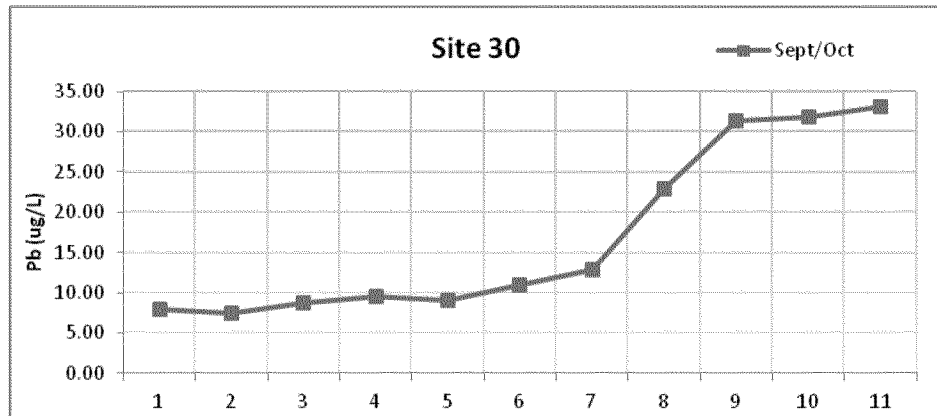
Site 29		
Liter	June	Sept/Oct
1	14	18
2	36	37
3	19	18
4	18	17
5	17	17
6	17	16
7	17	16
8	16	14
9	14	16
10	14	13
11	14	13
12	13	11
13		10
14		9.2
15		9.0
16		9.3
17		9.0
18		8.8
19		8.7
20		8.4



Disturbance(s): Probable Approximate LSL leak repair, meter installed in 2010.
Approximate LSL Length: 159 ft (48.5 m)
Ave Monthly Water Use: 1,438 gal. (5,443 L)

Figure S32: Sequential Lead Results - Sample Site #29 (June and Sept/Oct)

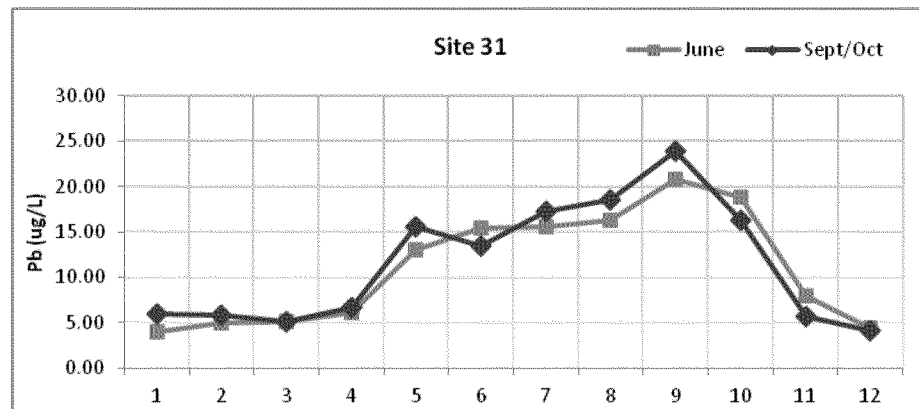
Site 30	
Liter	Sept/Oct
1	7.9
2	7.5
3	8.7
4	9.5
5	9.1
6	11
7	13
8	23
9	31
10	32
11	33



Disturbance(s): Broken water main in 2000, sidewalk replaced & street re-surfacing.
Approximate LSL Length: 49+ ft (14.9 m)
Ave Monthly Water Use: Not metered

Figure S33: Sequential Lead Results - Sample Site #30 (Sept/Oct)

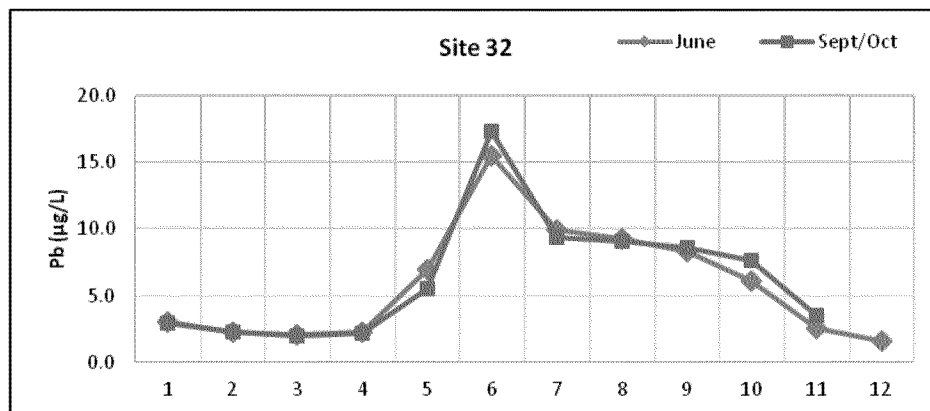
Site 31		
Liter	June	Sept/Oct
1	4.0	6.0
2	5.0	5.8
3	5.1	5.2
4	6.2	6.7
5	13	16
6	15	13
7	16	17
8	16	19
9	21	24
10	19	16
11	8	5.7
12	4.5	4.2



Disturbance(s): Approximate LSL leak repair in 2010.
Approximate LSL Length: 71+ ft (21.6+ m)
Ave Monthly Water Use: Not metered

Figure S34: Sequential Lead Results - Sample Site #31 (June and Sept/Oct)

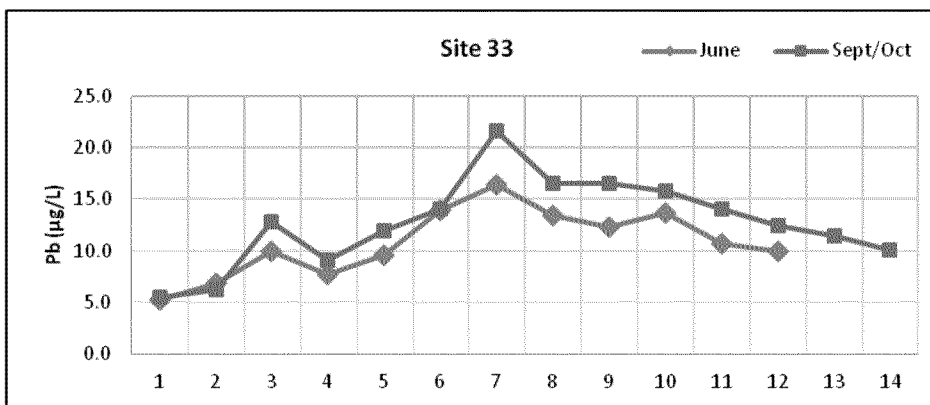
Site 32		
Liter	June	Sept/Oct
1	3.1	2.9
2	2.3	2.2
3	2.1	2.0
4	2.3	2.2
5	7.0	5.5
6	16	17
7	9.9	9.4
8	9.3	9.1
9	8.3	8.6
10	6.1	7.6
11	2.6	3.5
12	1.7	



Disturbance(s): No known disturbance
Approximate LSL Length: 43 ft (13.1 m)
Ave Monthly Water Use: Not metered

Figure S35: Sequential Lead Results - Sample Site #32 (June and Sept/Oct)

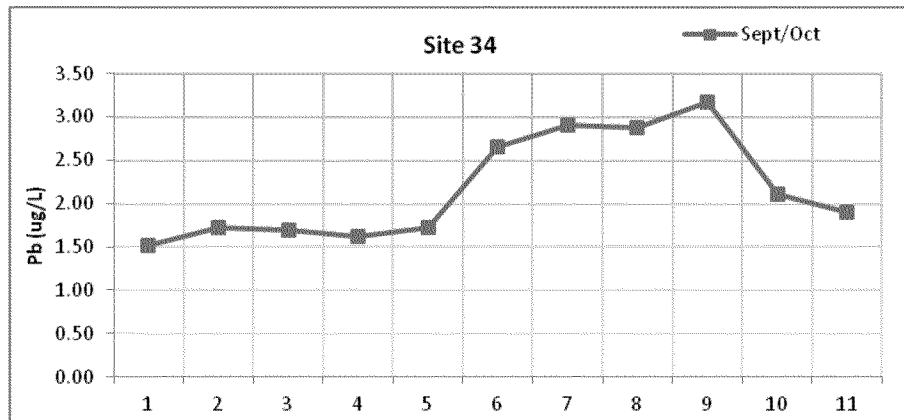
Site 33		
Liter	June	Sept/Oct
1	5.2	5.5
2	6.9	6.3
3	10	13
4	7.7	9.1
5	9.6	12
6	14	14
7	16	22
8	14	17
9	12	17
10	14	16
11	11	14
12	10	12
11		12
12		10



Disturbance(s): Indeterminate
Approximate LSL Length: 43+ ft (13.1 m)
Ave Monthly Water Use: Not metered

Figure S36: Sequential Lead Results - Sample Site #33 (June and Sept/Oct)

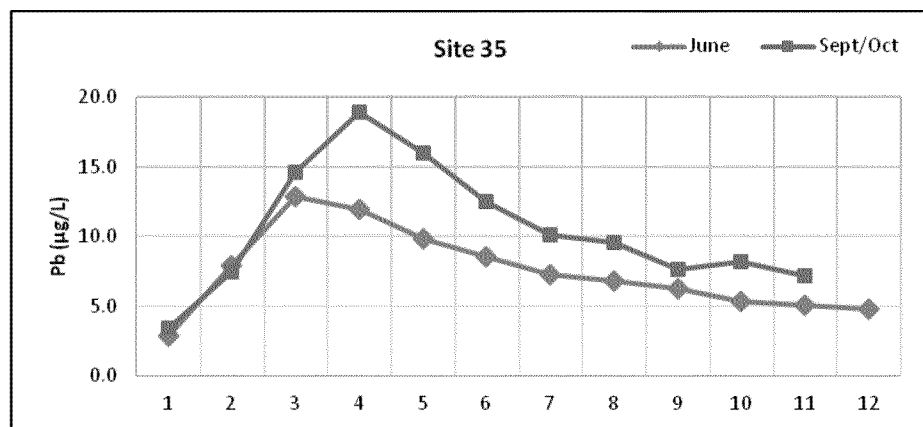
Site 34	
Liter	Sept/Oct
1	1.5
2	1.7
3	1.7
4	1.6
5	1.7
6	2.7
7	2.9
8	2.9
9	3.2
10	2.1
11	1.9



Disturbance(s): No known disturbance
Approximate LSL Length: Unknown
Ave Monthly Water Use: Not metered

Figure S37: Sequential Lead Results - Sample Site #34 (Sept/Oct)

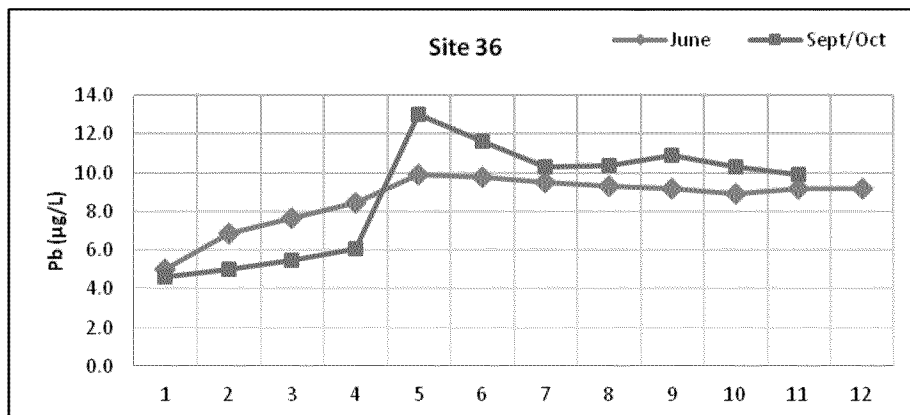
Site 35		
Liter	June	Sept/Oct
1	2.9	3.4
2	7.9	7.4
3	13	15
4	12	19
5	9.9	16
6	8.6	13
7	7.3	10
8	6.8	9.6
9	6.2	7.6
10	5.3	8.2
11	5.0	7.2
12	4.8	



Disturbance(s): Meter installed in Aug 2011 (between June and Sept/Oct sampling).
Approximate LSL Length: 80 ft (24.4 m)
Ave Monthly Water Use: 4,667 gal. (17,667 L) – Data available only for Aug-Oct 2011

Figure S38: Sequential Lead Results - Sample Site #35 (June and Sept/Oct)

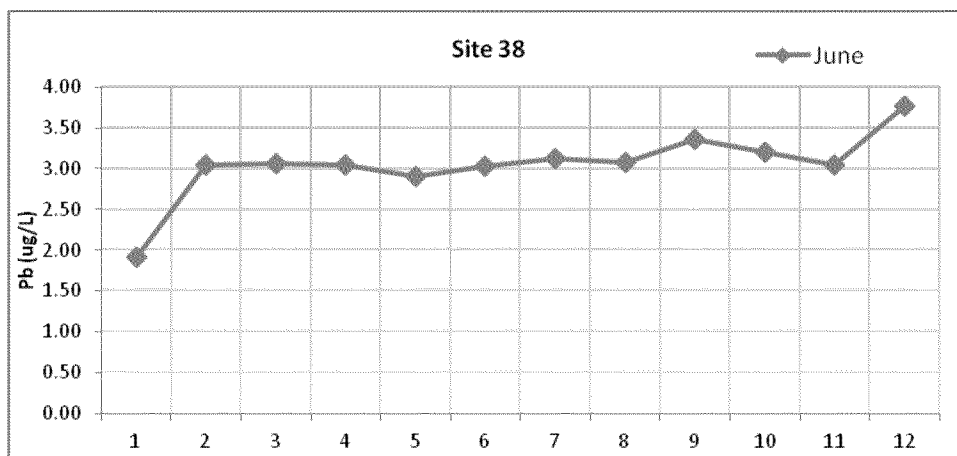
Site 36		
Liter	June	Sept/Oct
1	5.0	4.6
2	6.9	5.0
3	7.7	5.5
4	8.5	6.1
5	9.9	13
6	9.8	12
7	9.5	10
8	9.3	10
9	9.2	11
10	8.9	10
11	9.2	9.9
12	9.2	



Disturbance(s): No known disturbance
Approximate LSL Length: 83+ ft (25.3 m)
Ave Monthly Water Use: Not metered

Figure S39: Sequential Lead Results - Sample Site #36 (June and Sept/Oct)

Site 38	
Liter	June
1	1.9
2	3.0
3	3.1
4	3.0
5	2.9
6	3.0
7	3.1
8	3.1
9	3.4
10	3.2
11	3.0
12	3.8



Disturbance(s): No known disturbance
Approximate LSL Length: 51 ft (15.5 m)
Ave Monthly Water Use: Not metered

Figure S40: Sequential Lead Results - Sample Site #38 (June)

Sampling collection and reporting instructions and forms

March/April sampling – The sampling instructions and forms below were used in the March/April sampling. Sampling was scheduled to conclude in March, but the sampling ran into April. As a result of the instructions below, some volunteers sampled one day at the kitchen tap and one day at the bathroom tap. The intent was to have all samples collected from the same tap, so volunteers that split the samples were asked to collect replacement samples so that a complete set of four samples was collected at the same tap. We chose the kitchen tap, and all samples collected thereafter were also collected at the kitchen tap. In addition, the 45-second flushed

sampling protocol was not used after the March/April sampling due to the complication with corroded galvanized pipe.

General Sampling Instructions

You will be taking a total of 8 samples for this study. One set of 4 samples will be taken in March 2011 and one set of 4 samples (using the same instructions) will be taken in August 2011.

General Instructions for all four samples of a set

Sample #1 and Sample #2 must be collected one after another on the same day.

Sample #3 and Sample #4 must also be collected one after another on the same day, and within the same week as Sample #1 and Sample #2.

All samples should be collected from taps that are generally used by your household for drinking water. Do not collect samples from a taps that have not been used within the last 24 hours. Use a kitchen or bathroom cold-water faucet for your sampling.

Do not collect samples from a tap that has a water filter or is connected to a water softener. If you have a water softener or water filter on your kitchen tap, collect your sample from a bathroom tap that is not attached to the water softener or water filter, if possible.

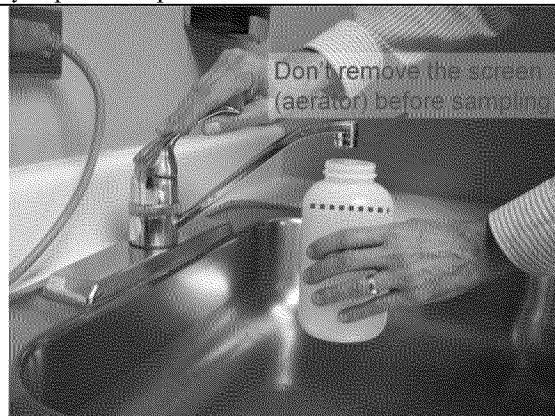
Instructions for Collecting Sample #1

Important: Please make sure you use the bottle labeled 'Sample #1' for your first sample!

Collecting Sample #1: The first sample is to be collected after water throughout the household *has not been used for a minimum of 6 hours* (example: midnight to 6am). During these 6 hours, do not flush toilets, shower, or run water from other faucets. The best time to collect samples is either:

1) First thing in the morning, before any water is used in the household; or 2) Immediately upon returning from work, and prior to using any water, as long as water has not been used in the household during the day.

1. When you are ready to collect your first sample, use the sample bottle labeled 'Sample #1'.
2. Do not run any water from the tap before collecting the first sample.
3. Place the opened sample bottle below the faucet and gently open the cold water tap.
4. Fill the sample bottle as you would normally fill a glass of water for drinking, up to the neck of the bottle (see photographs below) and turn off the water. Tightly cap the sample bottle.



Instructions for Collecting Sample #2

Important: Please make sure you use the bottle labeled 'Sample #2' for your second sample!

Collecting Sample #2: This sample is to be collected from the same faucet as Sample #1, immediately after collecting Sample #1.

1. Immediately after collecting Sample #1, run the water for 45 seconds. Shut off the water, and place the opened

<p>sample bottle (labeled Sample #2) below the faucet and gently open the cold water tap.</p> <p>2. Fill the sample bottle as you would normally fill a glass of water for drinking, up to the neck of the bottle (see photographs on first page) and turn off the water. Tightly cap the sample bottle.</p>
<p>Instructions for Collecting Sample #3</p>
<p><u>Important: Please make sure you use the bottle labeled 'Sample #3' for your third sample!</u></p> <p><u>Collecting Sample #3:</u> Collect on a different day in the same week as Samples #1 & #2.</p> <ol style="list-style-type: none"> 1. <i>Before</i> letting the water sit for a minimum of 6 hours, run the water from the faucet for 5 minutes at a high rate, and then do not use any water in the household for at least 6 hours after that (Example: Run the water for 5 minutes at midnight before going to bed, and then do not use any water in the household until collecting the third sample at 6 am the following morning). 2. Do not run any more water from the tap before collecting the third sample. Place the opened sample bottle below the faucet and gently open the cold water tap. 3. Fill the sample bottle as you would normally fill a glass of water for drinking, up to the neck of the bottle (see photographs on first page) and turn off the water. Tightly cap the sample bottle.
<p>Instructions for Collecting Sample #4</p>
<p><u>Important: Please make sure you use the bottle labeled 'Sample #4' for your fourth sample!</u></p> <p><u>Collecting Sample #4:</u> This sample is to be collected from the same faucet as Sample #3.</p> <ol style="list-style-type: none"> 1. Immediately after collecting Sample #3, <u>run</u> the water for 45 seconds. Shut off the water, and place the opened sample bottle (labeled Sample #4) below the faucet and gently open the cold water tap. 2. Fill the sample bottle as you would normally fill a glass of water for drinking, up to the neck of the bottle (see photographs on first page) and turn off the water. Tightly cap the sample bottle.

Figure S41: March/April sampling instructions.

Sample Collection and Reporting Page	
Sample Reporting – Sample #1	EPA Use: Visible Particulate? Yes <input type="checkbox"/> No <input type="checkbox"/>
<p>Sample ID (from Sample Bottle #1): _____ Date/time Sample #1 was collected: _____</p> <p>Volunteer ID: _____ Sampling Location: Kitchen Faucet <input type="checkbox"/> Bathroom Faucet <input type="checkbox"/></p> <p>Date/time the water was last used in household before collecting Sample #1: _____</p> <p>Was sample #1 collected from a faucet that has a water softener or water filter? Yes <input type="checkbox"/> No <input type="checkbox"/></p>	
Sample Reporting – Sample #2	EPA Use: Visible Particulate? Yes <input type="checkbox"/> No <input type="checkbox"/>
<p>Sample ID (from Sample Bottle #2): _____ Date/time Sample #2 was collected: _____</p> <p>Volunteer ID: _____ Sampling Location: Kitchen Faucet <input type="checkbox"/> Bathroom Faucet <input type="checkbox"/></p> <p>Date/time the water was last used in household before collecting Sample #2: _____</p> <p>Was Sample #2 collected from the same faucet as Sample #1: Yes <input type="checkbox"/> No <input type="checkbox"/></p>	
Sample Reporting – Sample #3	EPA Use: Visible Particulate? Yes <input type="checkbox"/> No <input type="checkbox"/>
<p>Sample ID (from Sample Bottle #3): _____ Date/time Sample #3 was collected: _____</p> <p>Volunteer ID: _____ Sampling Location: Kitchen Faucet <input type="checkbox"/> Bathroom Faucet <input type="checkbox"/></p> <p>Date/time the faucet was flushed before collecting Sample #3: _____</p> <p>Was sample #3 collected from a faucet that has a water softener or water filter? Yes <input type="checkbox"/> No <input type="checkbox"/></p>	
Sample Reporting – Sample #4	EPA Use: Visible Particulate? Yes <input type="checkbox"/> No <input type="checkbox"/>
<p>Sample ID (from Sample Bottle #4): _____ Date/time Sample #4 was collected: _____</p> <p>Volunteer ID: _____ Sampling Location: Kitchen Faucet <input type="checkbox"/> Bathroom Faucet <input type="checkbox"/></p> <p>Date/time the faucet was flushed before collecting Sample #4: _____</p> <p>Was Sample #4 collected from the same faucet as Sample #3: Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Have there been any plumbing repairs or plumbing work done within the household during the last six months (including installation of new faucets)? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>If yes, explain briefly (Example – ‘New faucet installed one week ago’):</p> 	
<p>FOR EPA USE: Samples received by _____ Date/Time: _____</p> <p>Samples transferred to Region 5 Laboratory by _____ Date/Time: _____</p>	

Volunteer Certification: I have read the sampling instructions and have collected the samples in accordance with the instructions provided.

Signature/Date OR Volunteer ID/Date

Figure S42: March/April sample collection and reporting form.

Sequential Sampling Instructions for June – The sampling instructions and forms below were used in the June sequential sampling.

Sequential Sampling Instructions
<p>Please read all instructions before beginning your sampling</p> <p><u>General Information</u></p> <ul style="list-style-type: none"> • Use <u>only the kitchen faucet</u> for all of these samples. • Use only cold water and open the cold water tap all the way when filling the bottles. • Fill each bottle to the top of the label on the sample bottle. <p><u>Sampling Instructions</u></p> <ul style="list-style-type: none"> • The night before sampling (right before everyone goes to bed) run the water from the kitchen tap for at least 5 minutes. Write down the date/time you finished running the water on the form on the back side of this page. • The water must sit motionless in the home plumbing for at least 6 hours before collecting the samples so do not use water in the home after you finished running the water and until all samples are collected the following morning. Showering, flushing toilets, or other water use will affect the sampling results. It may help to tape a sign in the kitchen and bathrooms with a reminder not to use the water, in case people forget. • The bottles are numbered, and <u>it is very important to collect them in order</u> (Sample 1 first, Sample 2 second, etc.). • In the morning, when you are ready to sample, place the open bottles in order by sample number. You will be collecting the samples without shutting off the water in between samples, so you should remove the caps from all bottles so that you have all of the bottles ready to fill. You can put the caps on after all samples have been collected. Try not to let any water spill in between samples. • Write down the date/time right before you sample on the form on the back side of this page. • Begin by placing the Sample 1 bottle under the faucet and open the cold water slowly until the faucet is <u>fully open</u>. While one bottle is filling, grab the next bottle so that you are ready to move it under the faucet quickly. • Once the bottle is filled to the top of the label, quickly place the Sample 2 bottle under the faucet, and continue until you have filled all sample bottles.
Sequential Sampling – Sample Collection and Reporting Form
<p>Volunteer ID: _____</p> <p>Sampling Information</p> <p>Date/time the water was last used in household (the night before collecting the samples): _____</p> <p>Date/Time Volunteer Began Collecting Samples: _____</p> <p>Were All Samples Collected from the Kitchen Tap? Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>FOR EPA USE: Samples received by _____ Date/Time: _____</p> <p>Samples transferred to Region 5 Laboratory by _____ Date/Time: _____</p> <p>EPA Use: Visible Particulate in any samples? Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes – List Samples With Particulate _____</p>
<p><i>Volunteer Certification: I have read the sampling instructions and have collected the samples in accordance with the instructions provided.</i></p> <p style="text-align: center;">_____ OR _____</p> <p><i>Signature/Date</i> <i>Volunteer ID/Date</i></p>

Figure S43: June sampling instructions and sample collection and reporting form.

Sampling instructions for September/October – In the final round of sampling, the number and type of samples was customized to each site and sites collected 3 days of sampling. The instructions below were for a site collecting one NHU First-draw sample, 11 sequential samples and a 2 flushed samples. Some sites collected additional sequential samples and some collected 3 flushed samples instead of two.

Sampling Instructions	
Please read all instructions before you start sampling.	
General Information	
<input type="checkbox"/> Use only the kitchen faucet for all of these samples. <input type="checkbox"/> Use only cold water . <input type="checkbox"/> Open the cold water tap all the way when filling the bottles. <input type="checkbox"/> Fill each bottle to the top of the label on the sample bottle.	
Sampling Instructions	
<input type="checkbox"/> There are three different sets of samples for you to collect (Sample Set #1, #2 and #3). <input type="checkbox"/> Each set will be taken on a different day. (The three sampling sets do not have to be taken on three days in a row.) <input type="checkbox"/> A section of the reporting form (attached) needs to be filled in for each day of sampling.	
A) Sample Set #1 (1 bottle, Blue Label)	
1. The water must sit motionless in the home plumbing for at least 6 hours before collecting the sample. Typically, the night before taking the sample, make sure that no one uses water in the home until you collect the sample from the kitchen the following morning. 2. In the morning, when you are ready to sample, write down the date/time on the attached form. 3. Fill up the bottle with the BLUE LABEL. That's it for collecting the first sample set.	
B) Sample Set #2 "Sequential Sampling" (11 bottles, WHITE LABELS)	
1. The night before sampling (right before everyone goes to bed) run the water from the kitchen tap for at least 5 minutes. Write down the date/time you finished running the water on the form. After running the water for 5 minutes, it should sit motionless in the home plumbing for at least 6 hours. 2. In the morning, your first water usage should be collecting eleven samples in a row (one after another). Use the bottles with the WHITE LABELS. The samples should be collected without shutting off the water in between samples. To do this, remove the caps from all eleven bottles before you turn on the water. 3. Place the eleven open bottles in order by sample number before you start collecting the samples Try not to waste water in between the samples. You can put the caps on after all 11 samples have been collected. The bottles are numbered Seq 01, to Seq 11. It is very important to collect the samples in order (Seq 01 first, Seq 02 second, etc.). 4. Use the attached reporting form to note the date and time that you started taking the sample set.	
C) Sample Set #3 (2 Bottles, GREEN LABEL and YELLOW LABEL)	
1. The night before sampling (right before everyone goes to bed) run the water from the kitchen tap for at least 5 minutes. Write down the date/time you finished running the water on the form. After running the water for 5 minutes, it should sit motionless in the home plumbing for at least 6 hours. 2. In the morning, when you are ready to sample, write down the date/time on the attached reporting form. 3. Run the water for 3 minutes, then collect a sample in the jar with the GREEN LABEL. Continue to let the water run for an additional 2 minutes (for a total of 5 minutes), and collect the final sample in the bottle with the YELLOW LABEL.	

Figure S44: Sept/Oct sampling instructions.

Sample Collection and Reporting – Sampling set # 1 (Blue label)	
Volunteer ID: _____	
Sampling Information	
Date/time the water was last used in household (the night before collecting the samples): _____	
Date/Time Volunteer Began Collecting Samples: _____	
Were All Samples Collected from the Kitchen Tap? Yes <input type="checkbox"/> No <input type="checkbox"/>	
FOR EPA USE: Samples received by _____ Date/Time: _____	
Samples transferred to Region 5 Laboratory by _____ Date/Time: _____	
EPA Use: Visible Particulate in any samples? Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes – List Samples With Particulate _____	
Sample Collection and Reporting - Sampling set # 2 (11 samples, White labels)	
Volunteer ID: _____	
Sampling Information	
Date/time the water was last used in household (the night before collecting the samples): _____	
Date/Time Volunteer Began Collecting Samples: _____	
Were All Samples Collected from the Kitchen Tap? Yes <input type="checkbox"/> No <input type="checkbox"/>	
FOR EPA USE: Samples received by _____ Date/Time: _____	
Samples transferred to Region 5 Laboratory by _____ Date/Time: _____	
EPA Use: Visible Particulate in any samples? Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes – List Samples With Particulate _____	
Sample Collection and Reporting - Sampling set # 3 (Green and Yellow labels)	
Volunteer ID: _____	
Sampling Information	
Date/time the water was last used in household (the night before collecting the samples): _____	
Date/Time Volunteer Began Collecting Samples: _____	
Were All Samples Collected from the Kitchen Tap? Yes <input type="checkbox"/> No <input type="checkbox"/>	
FOR EPA USE: Samples received by _____ Date/Time: _____	
Samples transferred to Region 5 Laboratory by _____ Date/Time: _____	
EPA Use: Visible Particulate in any samples? Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes – List Samples With Particulate _____	

Volunteer Certification: I have read the sampling instructions and have collected the samples in accordance with the instructions provided.

Signature/Date OR _____
Volunteer ID/Date

Figure S45: Sept/Oct sample collection and reporting form.

Literature Cited/References

1. Triantafyllidou, S.; Edwards, M., Galvanic corrosion after simulated small-scale partial lead service line replacements. *Journal American Water Works Association* **2011**, *103*, (9), 85-+.
2. Renner, R., Reaction to the Solution: Lead Exposure Following Partial Service Line Replacement. *Environmental health perspectives* **2010**, *118*, (5).
3. Cartier, C.; Arnold Jr, R. B.; Triantafyllidou, S.; Prévost, M.; Edwards, M., Effect of Flow Rate and Lead/Copper Pipe Sequence on Lead Release from Service Lines. *Water Research* **2012**, *46*, (13), 4142-4152.

To: Kelley, Jeff[kelley.jeff@epa.gov]
Cc: Arcaute, Francisco[Arcaute.Francisco@epa.gov]; Rowan, Anne[rowan.anne@epa.gov]; Sarah Hulett[sarahhu@umich.edu]; Cassell, Peter[cassell.peter@epa.gov]
From: Lindsey Smith
Sent: Tue 9/29/2015 2:03:19 PM
Subject: Re: Flint water interim report - media request

Thanks Jeff,

I guess my only follow up is - is it fair to assume corrosion control is, in fact, required of large water systems? I did a lot of reading yesterday and from what I can tell, it is. It would be very helpful if one of you can clarify.

Best~

On Mon, Sep 28, 2015 at 5:11 PM, Kelley, Jeff <kelley.jeff@epa.gov> wrote:

Lindsey,

EPA is working to finalize the field report. In the meantime, EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: [312-353-1159](tel:312-353-1159)

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Monday, September 28, 2015 2:18 PM
To: Arcaute, Francisco
Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
Subject: Re: Flint water interim report - media request

Any luck? I colleague is filing for the national network very shortly and we're trying to understand if corrosion control **is** required, as that memo says it is. Best~

On Mon, Sep 28, 2015 at 10:06 AM, Arcaute, Francisco <Arcaute.Francisco@epa.gov> wrote:

Chasing down...

Thanks

F

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

Hi Anne,

Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

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Michigan Radio
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To: Kempic, Jeffrey[Kempic.Jeffrey@epa.gov]; Moriarty, Edward[Moriarty.EdwardJ@epa.gov]
From: Darman, Leslie
Sent: Tue 9/29/2015 2:03:51 PM
Subject: FW: question about optimal WQP ranges for Flint's water

.....
>>>>>>
FYI

Leslie Darman

Office of General Counsel

Water Law Office

202-564-5452

From: Shoven, Heather
Sent: Monday, September 28, 2015 4:04 PM
To: Darman, Leslie
Subject: FYI: question about optimal WQP ranges for Flint's water

Hi Leslie,

Attorney Client / Ex. 5

Best wishes,

Heather

Heather A. Shoven | Enforcement Team Leader | U.S. Environmental Protection Agency, Region 5

Ground Water and Drinking Water Branch | 77 W. Jackson Blvd (WG-15J) | Chicago, IL 60604 | 312-886-0153

From: Glowacki, Joanna
Sent: Monday, September 28, 2015 1:43 PM
To: Shoven, Heather
Subject: RE: question about optimal WQP ranges for Flint's water

Thanks for the FYI, heather. You may want to keep Leslie in the loop on germane emails as we get the memo completed.

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

Chicago, Illinois 60604

312-353-3757

312-385-5464 fax

From: Shoven, Heather
Sent: Monday, September 28, 2015 1:38 PM
To: Porter, Andrea; Glowacki, Joanna; King, Carol
Cc: Deltoral, Miguel
Subject: FYI: question about optimal WQP ranges for Flint's water

From: Poy, Thomas
Sent: Monday, September 28, 2015 1:29 PM
To: Bair, Rita; Damato, Nicholas; Deltoral, Miguel; Crooks, Jennifer; Shoven, Heather
Subject: FW: question about optimal WQP ranges for Flint's water

FYI...

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Hyde, Tinka
Sent: Monday, September 28, 2015 1:17 PM
To: Poy, Thomas; Henry, Timothy
Subject: FW: question about optimal WQP ranges for Flint's water

FYI

From: Yanna Lambrinidou [<mailto:pnalternatives@yahoo.com>]
Sent: Monday, September 28, 2015 11:30 AM
To: Busch, Stephen (DEQ)
Cc: Benzie, Richard (DEQ); Cook, Pat (DEQ); Prysby, Mike (DEQ); Wurfel, Brad (DEQ); Hyde, Tinka
Subject: Re: question about optimal WQP ranges for Flint's water

Dear Mr. Busch,

I appreciate your response.

Would you be able to send me a copy of the modified consecutive system approach to lead and copper monitoring that EPA approved?

I am sorry I cannot route my question through the NDWAC or my WG. I am not a NDWAC member, and my WG disbanded when our final report was completed back in August. I apologize if I have caused any confusion. The questions I am posing come solely from me because I am in the process of writing a dissenting opinion about the NDWAC LCR WG recommendations that is due to EPA in a couple of weeks. One of the main reasons I am writing this opinion is because of concerns I have about the LCR's CCT requirement. Your experience with and implementation of the LCR in Flint is extremely helpful to me in deepening my understanding about the LCR's CCT requirement and will undoubtedly allow me to write a more informed discussion.

I thank you in advance for your help on this matter and your support of ongoing efforts to assess the LCR carefully and thoroughly.

Kindly,

Yanna Lambrinidou

Yanna Lambrinidou PhD

Parents for Nontoxic Alternatives
PO Box 6283
Washington DC 20015
P 202.997.1834
B www.dcwasawatch.blogspot.com

From: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
To: Yanna Lambrinidou <pnalternatives@yahoo.com>
Cc: "Benzie, Richard (DEQ)" <BENZIER@michigan.gov>; "Cook, Pat (DEQ)" <COOKP@michigan.gov>; "Prysby, Mike (DEQ)" <PRYSBYM@michigan.gov>; "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>; "hyde.tinka@epa.gov" <hyde.tinka@epa.gov>
Sent: Friday, September 25, 2015 8:26 AM
Subject: RE: question about optimal WQP ranges for Flint's water

Dr. Lambrinidou,

I'm sorry for the delay in my response. As some of your questions relate more to statewide program implementation I have requested assistance with the response from staff within our central program office. However, these staff were attending and participating in an offsite (American Water Works Association Conference Michigan Section) conference last week.

Michigan has implemented an EPA approved modified consecutive system approach to lead and copper monitoring where a wholesale water supply sells water to other community water systems. In addition, while water quality parameter (WQP) monitoring occurs at both the water treatment plant and in the combined distribution system, a WQP range is only required to be established at the water treatment plant tap after the system has demonstrated optimized corrosion control treatment (OCCT).

Thus when the City of Flint was a customer of the Detroit Water and Sewerage Department (DWSD), the City of Flint participated in WQP monitoring of its distribution system, but ranges were established only for the OCCT at DWSD treatment plants. The attached letter from our Department established the minimum levels for pH and phosphate dosage in 2000.

As the City of Flint water treatment plant has not yet installed such treatment or been given the designation of OCCT these plant tap values have not been established.

However, the City of Flint WTP has continued to maintain the minimum pH value requirement previously established for DWSD

As noted in your Working Group Report to the NDWAC, "Corrosion Control Treatment (CCT) involves the addition of chemicals (e.g. orthophosphates or silicate) to create a barrier between the pipes and the drinking water, or to modify drinking water chemistry (such as pH and hardness) to inhibit the potential for corrosion."

Should you consider the Flint WTP softening process to be OCCT, then the City already continues to comply with the OCCT requirements as the City of Flint has never had 10% or more of compliance tap samples exceed the 15 ppb action level. Even prior to DWSD's established OCCT the City of Flint lead compliance monitoring has never exceeded the 15 ppb action level.

If you have additional questions we would appreciate having them routed through the NDWAC and your Working Group. Thanks.

Stephen Busch, P.E.

MDEQ Lansing District Coordinator

Office of Drinking Water and Municipal Assistance

Lansing and Jackson District Supervisor

517-643-2314

buschs@michigan.gov

From: Yanna Lambrinidou [<mailto:pnalternatives@yahoo.com>]

Sent: Wednesday, September 16, 2015 7:22 PM

To: Busch, Stephen (DEQ); Wurfel, Brad (DEQ)

Subject: Re: question about optimal WQP ranges for Flint's water

Dear Mr. Busch,

Thank you for your quick response. I appreciate the information at, I am sure, a very busy time for you and MDEQ.

Could you please help me understand the following?

When you say that all previous optimal water quality parameter ranges would have been established for the Detroit water utility (not for the City of Flint), do you mean that MDEQ never set optimal water quality parameter ranges *specifically* for Flint before Flint's switch to Flint River water?

It is my impression, please correct me if I'm wrong, that under the LCR, all large systems -- whether they are consecutive or not -- must have optimal water quality parameter ranges designated by states *specifically for them* (at the time when these systems are deemed to have optimized their treatment). Is there language in the LCR I am missing that allows a utility not to have optimal quality parameter ranges established specifically for it?

My second question is this: If the City of Flint had no optimal water quality parameter ranges established specifically for it in the past, how did it achieve LCR compliance? Isn't it the case that utility-specific optimal water quality parameter ranges (and maintenance of these ranges) are required for all large systems to avoid an LCR violation?

I would appreciate your assistance on this matter, as it will shed light on an issue that seems to be very important for EPA's assessment of and upcoming revisions to the LCR.

Kindly,

Yanna Lambrinidou

Yanna Lambrinidou PhD
Parents for Nontoxic Alternatives
PO Box 6283
Washington DC 20015
P 202.997.1834
B www.dccwasawatch.blogspot.com

From: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
To: Yanna Lambrinidou <pnalternatives@yahoo.com>; "Wurfel, Brad (DEQ)" <WurfelB@michigan.gov>
Sent: Monday, September 14, 2015 11:05 AM
Subject: RE: question about optimal WQP ranges for Flint's water

Dr. Lambrinidou,

All previous water quality parameter ranges would have been established for the City of Flint's wholesale finished water supplier, the Detroit Water and Sewerage Department, not the City of Flint itself.

As the City of Flint has not yet established optimized corrosion control treatment, the MDEQ is not yet at the point of regulatory requirements where the range of water quality parameters would be set.

Stephen Busch, P.E.

MDEQ Lansing District Coordinator

Office of Drinking Water and Municipal Assistance

Lansing and Jackson District Supervisor

517-643-2314

buschs@michigan.gov

From: Yanna Lambrinidou [<mailto:pnalternatives@yahoo.com>]
Sent: Thursday, September 10, 2015 11:11 AM
To: Wurfel, Brad (DEQ); Busch, Stephen (DEQ)
Subject: question about optimal WQP ranges for Flint's water

Good morning Mr. Wurfel and Mr. Busch,

As a member of the EPA National Drinking Water Advisory Council (NDWAC) Lead and Copper Rule (LCR) workgroup that just completed its recommendations to EPA about the agency's upcoming revisions to the LCR, I am watching with great interest and concern the developments in Flint in relation to lead. I am looking for information on the optimal water quality parameter (WQP) ranges that MDEQ has set for Flint's water. Are those posted online? If so, could you send me the link? If not, could you let me know what they are?

Thank you kindly,

Yanna Lambrinidou PhD

Parents for Nontoxic Alternatives
PO Box 6283
Washington DC 20015
P 202.997.1834
B www.dccwasawatch.blogspot.com

To: Poy, Thomas[poy.thomas@epa.gov]
Cc: Hyde, Tinka[hyde.tinka@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
From: Kelley, Jeff
Sent: Tue 9/29/2015 2:11:52 PM
Subject: FW: Flint water interim report - media request

Tom, a follow-up question from Michigan Radio...

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Tuesday, September 29, 2015 9:03 AM
To: Kelley, Jeff
Cc: Arcaute, Francisco; Rowan, Anne; Sarah Hulett; Cassell, Peter
Subject: Re: Flint water interim report - media request

Thanks Jeff,

I guess my only follow up is - is it fair to assume corrosion control is, in fact, required of large water systems? I did a lot of reading yesterday and from what I can tell, it is. It would be very helpful if one of you can clarify.

Best~

On Mon, Sep 28, 2015 at 5:11 PM, Kelley, Jeff <kelley.jeff@epa.gov> wrote:

Lindsey,

EPA is working to finalize the field report. In the meantime, EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: [312-353-1159](tel:312-353-1159)

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Monday, September 28, 2015 2:18 PM
To: Arcaute, Francisco
Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
Subject: Re: Flint water interim report - media request

Any luck? I colleague is filing for the national network very shortly and we're trying to understand if corrosion control **is** required, as that memo says it is. Best~

On Mon, Sep 28, 2015 at 10:06 AM, Arcaute, Francisco <Arcaute.Francisco@epa.gov> wrote:

Chasing down...

Thanks

F

From: [redacted] **Citizen name / Ex. 6**
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

Hi Anne,

Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

--

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Lindsey Smith

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To: Glowacki, Joanna[glowacki.joanna@epa.gov]
From: Deltoral, Miguel
Sent: Tue 9/29/2015 3:24:11 PM
Subject: Fw: Flint Corrosion Control?

Miguel A. Del Toral
Regulations Manager
U.S. EPA R5 GWDWB
77 West Jackson Blvd, (WG-15J)
Chicago, IL 60604
Phone: (312) 886-5253

From: Cook, Pat (DEQ) <COOKP@michigan.gov>
Sent: Friday, May 1, 2015 10:38 AM
To: Deltoral, Miguel
Cc: Porter, Andrea; Crooks, Jennifer; Poy, Thomas; Benzie, Richard (DEQ); Busch, Stephen (DEQ)
Subject: RE: Flint Corrosion Control?

Hi Miguel - sorry, I should have been more specific in my previous email. The rules you stated below allow large systems to be considered having optimal corrosion control if they have data from two consecutive 6 month monitoring periods that meet specific criteria. DEQ-ODWMA has not made a formal decision as to whether or not the City of Flint meets the exemption criteria or will be required to do a corrosion control study since Flint has only completed one round of 6 month monitoring. The City of Flint's second round of monitoring will be completed by June 30, 2015, and we will make a formal decision at that time. If my memory is correct, this is consistent with the process followed in the early 1990's for large systems when the Pb/Cu rule was first implemented. The Department waits until large systems complete both rounds of full scale, 6 month monitoring before making a decision about optimal corrosion control. If it is determined that Flint has to install corrosion control treatment, the rule allows up to 2 years to complete a study and 2 additional years to install the treatment unless we set a shorter time frame.

As Flint will be switching raw water sources in a just over one year from now, raw water quality will be completely different than what they currently use. Requiring a study at the current time will be of little to no value in the long term control of these chronic contaminants.

Finally, the City of Flint's sampling protocols for lead and copper monitoring comply will all current state and federal requirements. Any required modifications will be implemented at the time when such future regulatory requirements take effect.

Patrick Cook, P.E.

Community Drinking Water Unit

Office of Drinking Water & Municipal Assistance

Michigan Department of Environmental Quality

Phone: (517) 284-6514

cookp@michigan.gov

From: Deltoral, Miguel [mailto:deltoral.miguel@epa.gov]
Sent: Saturday, April 25, 2015 10:11 AM
To: Cook, Pat (DEQ)
Cc: Porter, Andrea; Crooks, Jennifer; Poy, Thomas
Subject: Re: Flint Corrosion Control?

Hi Pat,

I'll be heading out to MI for RTCR tomorrow and won't see email until next Tuesday, but I wanted to follow up on this because Flint has essentially not been using any corrosion control treatment since April 30, 2014 and they have LSLs. Given the very high lead levels found at one home and the pre-flushing happening at Flint, I'm worried that the whole town may have much higher lead levels than the compliance results indicated, since they are using pre-flushing ahead of their compliance sampling.

If the source water lead is non-detect (zero), then according to 141.89(a)(3) they should use zero for that source water value:

"All lead and copper levels measured between the PQL and MDL must be either reported as measured or they can be reported as one-half the PQL specified for lead and copper in paragraph (a)(1)(ii) of this section. All levels below the lead and copper MDLs must be reported as zero."

As far as the treatment determination, there are only two scenarios for a large system to be deemed to have optimized corrosion control without treatment and Flint does not appear to meet either:

The first is at 141.81(b)(3)

Any water system is deemed to have optimized corrosion control if it submits results of tap water monitoring conducted in accordance with § 141.86 and source water monitoring conducted in accordance with § 141.88 that demonstrates for two consecutive 6-month monitoring periods that the difference between the 90th percentile tap water lead level computed under §141.80(c)(3), and the highest source water lead concentration is less than the Practical Quantitation Level for lead specified in § 141.89(a)(1)(ii).

If Flint's highest source water lead was zero, and their 90th percentile was 0.006, then Flint does not meet this criteria, because the difference must be LESS THAN the PQL (i.e., 0.004 or less). $0.006 - 0 = 0.006$.

The second is at 141.81(b)(3)(i):

Those systems whose highest source water lead level is below the Method Detection Limit may also be deemed to have optimized corrosion control under this paragraph if the 90th percentile tap water lead level is less than or equal to the Practical Quantitation Level for lead for two consecutive 6-month monitoring periods.

Although Flint's source water lead was non-detect (zero), the 90th percentile lead level is 0.006 which is above the PQL of 0.005, so Flint would not meet this criteria either.

Am I missing something?

Miguel A. Del Toral

Regulations Manager
U.S. EPA R5 GWDWB
77 West Jackson Blvd, (WG-15J)
Chicago, IL 60604
Phone: (312) 886-5253

From: Cook, Pat (DEQ) <COOKP@michigan.gov>
Sent: Friday, April 24, 2015 12:45 PM
To: Deltoral, Miguel
Subject: RE: Flint Corrosion Control?

Total Lead collected from the plant tap on 5/22/14 was zero.

pat

From: Deltoral, Miguel [<mailto:deltoral.miguel@epa.gov>]
Sent: Friday, April 24, 2015 11:59 AM
To: Cook, Pat (DEQ)
Cc: Poy, Thomas; Porter, Andrea
Subject: Re: Flint Corrosion Control?

What was the source water lead level?

Miguel A. Del Toral

Regulations Manager
U.S. EPA R5 GWDWB
77 West Jackson Blvd, (WG-15J)
Chicago, IL 60604
Phone: (312) 886-5253

From: Cook, Pat (DEQ) <COOKP@michigan.gov>
Sent: Friday, April 24, 2015 10:43 AM

To: Deltoral, Miguel
Cc: Poy, Thomas; Porter, Andrea
Subject: RE: Flint Corrosion Control?

Hi Miguel - Flint is currently not practicing corrosion control treatment at the WTP. When they started treating water at their WTP last spring, we placed them on full chart (100 sites) Pb/Cu monitoring for two consecutive 6 month periods. WQ monitoring is also being conducted. The first round of samples after switch-over from DWSD (July 1, 2014 – Dec 31, 2014) had 90th percentiles of 6 ppb for Lead and 110 ppb for Copper. The second round of samples (Jan 1, 2015 – June 30, 2015) is underway with approximately 20 of the 100 sample site results in. The highest lead result out of the 20 received thus far is 13 ppb.

Based on the matrix of recommended corrosion control study components for Large PWS's for both Lead and Copper, there are no additional requirements for the City of Flint based on the levels of lead and copper in the current source water and the results of the lead and copper distribution monitoring. The only provision of the Lead & Copper Rule which classifies the existing treatment of large PWSs as optimized for corrosion control is when the difference between the 90% Pb-TAP and Pb-POE is less than the lead practical quantitative level (PQL) for each six-month period of the initial monitoring program. By definition, the PQL for lead is 0.005 mg/L; and the lead value for the source water used in this determination is the highest source water lead concentration. If this condition is met, then no study or testing is required. We believe this condition has been met for Flint. However, we will re-evaluate this after the 2nd round of 6 month sampling is completed.

If you have any further questions, please contact the Lansing District Supervisor, Steve Busch at (517) 643-2314 or at buschs@michigan.gov.

Have a good (and hopefully warm) weekend!

Patrick Cook, P.E.

Community Drinking Water Unit

Office of Drinking Water & Municipal Assistance

Michigan Department of Environmental Quality

Phone: (517) 284-6514

cookp@michigan.gov

From: Deltoral, Miguel [<mailto:deltoral.miguel@epa.gov>]
Sent: Thursday, April 23, 2015 12:33 PM
To: Cook, Pat (DEQ)
Cc: Poy, Thomas; Porter, Andrea
Subject: Flint Corrosion Control?

Hi Pat,

What's Flint doing now (post Detroit) for corrosion control treatment?

Miguel A. Del Toral

Regulations Manager

Ground Water and Drinking Water Branch

77 West Jackson Blvd (WG-15J)

Chicago, IL 60604

Phone: (312) 886-5253

To: Kelley, Jeff[kelley.jeff@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
From: Singer, Joshua
Sent: Tue 9/29/2015 4:35:47 PM
Subject: Detroit Free Press: Doctor: Lead seen in more Flint kids since water switch

FYI, in case you haven't seen it already.

Josh Singer

U.S. EPA, Region 5

phone: 312-353-5069

singer.joshua@epa.gov

Doctor: Lead seen in more Flint kids since water switch

By Robin Erb, Detroit Free Press 6:44 p.m. EDT September 25, 2015

Number of Flint children with lead poisoning jumps after Flint water switch, says researcher.



Buy Photo

Tony Pallaeeno Jr. holds a sample of water he boiled water from his house including a sand deposit and iron, while protesting the quality of water in front of Flint City Hall on Wednesday January 21, 2015 in downtown Flint.(Photo: Ryan Garza, Detroit Free Press)Buy Photo

Flint's ongoing water woes are now associated with an immediate and irreversible danger — possible lead poisoning of some of the city's children, according to a review of blood test results by a Hurley Children's Hospital pediatrician.

"I was hoping not to find anything, but what we found ... is concerning," said Dr. Mona Hanna-Attisha who also leads the pediatric residency program at Michigan State University's College of Human Medicine.

"This is not something you mess around with," she said. "Our population already has so many issues from poverty, from unemployment, from violence."

State officials say their own review of blood test results have not shown the same increase that Hanna-Attisha found. Moreover, water tests have similarly shown lead within federally accepted levels, they say.

Hanna-Attisha examined results from blood samples of Genesee County children taken both before and after the city ended its water contract with the Detroit Water and Sewerage Department and began pulling water from the Flint River.

The number of Flint children with elevated blood-lead levels — 5 micrograms per deciliter or more — jumped from 2.1% in the 20 months prior to Sept. 15, 2013, to 4.0% between Jan. 1 and Sept. 15 this year. In certain ZIP Codes, the change was even more troubling, she said — jumping from 2.5% of the children tested to 6.3%.

Blood is often drawn by pediatricians as part of routine lead-level testing, especially among children who are on Medicaid. That gave Hanna-Attisha 1,746 test results from Flint children to compare against 1,640 results from elsewhere in Genesee County. Children in Genesee County outside of Flint showed no significant increase in blood-lead levels.

Health officials have said no lead levels are safe. Lead can lead to serious developmental problems, reducing a child's IQ and causing serious behavioral and emotional problems. Though levels can fall in individuals over time, the damage is permanent.

If Hanna-Attisha's analysis is correct, this upward trend in Flint interrupts years of progress in reducing dangerous blood-lead levels.

State data show that the percentage of children with elevated blood lead levels have been falling for years. In fact in 2013, 3.6% of Flint children younger than 6 had elevated blood-lead levels, compared with the state-wide rate of 3.9%.

Though Hanna-Attisha's review didn't try to determine cause, "we can't think of another reason" for the trend other than the change in Flint's water source.

The review is sure to ratchet up tension in Flint.

In 2014, city officials ended the city's contract with the Detroit Water and Sewerage Department, saying that water costs were too high. They opted instead to pull from the Karegnondi Water Authority, which is building a system to supply Genesee County with water pulled from Lake Huron. In the long run, this will mean lower water costs, officials have said.

But until the new system comes online in 2016, Flint is temporarily pulling water from the Flint River. Since it made the switch, residents have complained that the water smells, is discolored and makes them sick.

Soon after the switch, tests indicated the presence of coliform bacteria, which can suggest the presence of other disease-carrying pathogens. The water was then treated with disinfectants, and city officials maintain the water is safe.

The question is not that whether there is a higher level of lead in water from the Flint River — it's that river water may be more corrosive as it travels through lead pipes on residential properties and in homes, said Brad Wurfel, a spokesman for the Michigan Department of Environmental Quality. About 15,000 of the 40,000 Flint customers have lead pipes connecting to the city system, he said.

But he said testing has shown that lead levels in the Flint water system — both before and after the switch in 2014 — have been under the acceptable limit of 15 parts per billion during every three-year testing cycle since 1992. Additionally, two rounds of supplemented tests since the system switch put lead levels at 6 parts per billion and then at 11 parts per billion — a change that Wurfel said fits in line with previous fluctuations.

Congressman Dan Kildee, a Flint Democrat, called state and local testing "lackluster."

For one thing, Flint residents collect samples, and there are concerns that there are too few samples and that they represent only some parts of the city. And Wurfel confirmed that about 60 bottles of water samples were turned in by citizens in the last round of testing, even though 200 bottles were sent out.

In the best of circumstances — with enough sampling and previous clean tests of water — citizen sampling might be adequate. But, in Flint — where there's a major change in the system that some residents say have led to health problems, "it seems to be a much higher standard would apply," Kildee said.

In addition to water testing, Wurfel said state public health officials have reexamined results of blood-lead level testing among Flint children. In short, that data doesn't show the same upward trend that Hanna-Attisha's found, he said.

Wurfel said environmental officials aren't taking the matter lightly, and they realize the water system is in "dire" need of an overhaul. They've requested a meeting with U.S. Environmental Protection Agency authorities to "review protocols" to make sure the state's testing is adequate.

"Lead is serious. Lead builds up. Lead effects children. It's not something we take lightly," he said. "We're confident with what we've done, but we know there are concerns."

Angela Minicuci, a spokeswoman for the Michigan Department of Health and Human Services, any increase in the past year in blood-lead levels among Flint children is attributed to predictable seasonal spikes.

In the year preceding the change in the water system, 95 Flint children younger than 16, or 2.4% of those tested, had elevated blood-lead levels, according to state data. The following year, 123 children, or 3.2%, of those tested had elevated blood-lead levels.

There is "cause for concern in Flint," but it cannot be attributed to the water, she said.

Contact Robin Erb: rerb@freepress.com or 313-222-2708. Follow her on Twitter [@Freepehealth](https://twitter.com/Freepehealth).

Free Press staff writer Kristi Tanner contributed to this report.

Lead's toll on children:

Lead can affect many parts of the body, and is most harmful when there is repeated exposure, even to small amounts. Even low levels of lead exposure can harm a child's mental development, and the problems worsen as blood-lead levels get higher.

The younger the child, the more harmful the exposure; unborn children are the most vulnerable, according to the National Institutes of Health.

Among possible complications:

- Behavior or attention problems
- Failure at school
- Hearing problems
- Kidney damage
- Reduced IQ
- Slowed body growth

Very high levels of lead may cause vomiting, a staggering walk, muscle weakness, seizures, or coma.

For more information, visit www.cdc.gov. Search "lead poisoning."

To: Kaiser, Sven-Erik[Kaiser.Sven-Erik@epa.gov]; Borum, Denis[Borum.Denis@epa.gov]; Asher, Jonathan[Asher.Jonathan@epa.gov]
From: Davis, CatherineM
Sent: Tue 9/29/2015 3:40:45 PM
Subject: RE: Meetings with Sens. Gillibrand and Peters

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Please let me know if you'd like me to follow up to get any additional information.

Cathy Davis

Office of Congressional and

Intergovernmental Relations

202-564-2703

davis.catherinem@epa.gov

Send mail to:

US Environmental Protection Agency

1200 Pennsylvania Ave, NW

MC: 1305A

Washington, DC 20460

From: Kaiser, Sven-Erik

Sent: Tuesday, September 29, 2015 10:23 AM

To: Borum, Denis; Davis, CatherineM; Asher, Jonathan

Subject: Meetings with Sens. Gillibrand and Peters

Denis and Cathy – Jon is coordinating Administrator calls with Sen. Gillibrand and Peters that will happen tomorrow. Any issues he should know about? Thanks,

Sven

Sven-Erik Kaiser

U.S. EPA

Office of Congressional and Intergovernmental Relations

1200 Pennsylvania Ave., NW (1305A)

Washington, DC 20460

202-566-2753

To: Kelley, Jeff[kelley.jeff@epa.gov]
Cc: Hyde, Tinka[hyde.tinka@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
From: Poy, Thomas
Sent: Tue 9/29/2015 4:44:32 PM
Subject: RE: Flint water interim report - media request

Jeff: Corrosion control is required of large water systems.

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 9:12 AM
To: Poy, Thomas
Cc: Hyde, Tinka; Cassell, Peter; Arcaute, Francisco
Subject: FW: Flint water interim report - media request

Tom, a follow-up question from Michigan Radio...

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Tuesday, September 29, 2015 9:03 AM
To: Kelley, Jeff
Cc: Arcaute, Francisco; Rowan, Anne; Sarah Hulett; Cassell, Peter
Subject: Re: Flint water interim report - media request

Thanks Jeff,

I guess my only follow up is - is it fair to assume corrosion control is, in fact, required of large water systems? I did a lot of reading yesterday and from what I can tell, it is. It would be very helpful if one of you can clarify.

Best~

On Mon, Sep 28, 2015 at 5:11 PM, Kelley, Jeff <kelly.jeff@epa.gov> wrote:

Lindsey,

EPA is working to finalize the field report. In the meantime, EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley

Director, Office of External Communications
U.S. EPA Region 5
ph: [312-353-1159](tel:312-353-1159)

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Monday, September 28, 2015 2:18 PM
To: Arcaute, Francisco
Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
Subject: Re: Flint water interim report - media request

Any luck? I colleague is filing for the national network very shortly and we're trying to understand if corrosion control **is** required, as that memo says it is. Best~

On Mon, Sep 28, 2015 at 10:06 AM, Arcaute, Francisco <Arcaute.Francisco@epa.gov> wrote:

Chasing down...

Thanks

F

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

Hi Anne,

Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

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Cc: Asher, Jonathan[Asher.Jonathan@epa.gov]; Clark, Becki[Clark.Becki@epa.gov]; Christ, Lisa[Christ.Lisa@epa.gov]; King, Carol[King.Carol@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]; Lopez-Carbo, Maria[Lopez-Carbo.Maria@epa.gov]; Hannon, Arnita[Hannon.Arnita@epa.gov]; Galada, Heather[Galada.Heather@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Hedman, Susan[hedman.susan@epa.gov]
From: Grevatt, Peter
Sent: Tue 9/29/2015 4:48:20 PM
Subject: Re: Flint happenings

Thanks Arnita. I had not seen this. Please let me know if you need any assistance from us.

Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

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From: "Rupp, Mark" <Rupp.Mark@epa.gov>
Date: September 29, 2015 at 12:33:36 PM EDT
To: "Hannon, Arnita" <Hannon.Arnita@epa.gov>, "Barbery, Andrea" <Barbery.Andrea@epa.gov>, "Cook-Shyovitz, Becky" <Cook-Shyovitz.Bekky@epa.gov>, "Bowles, Jack" <Bowles.Jack@epa.gov>
Subject: Flint happenings

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To: Davis, CatherineM[Davis.CatherineM@epa.gov]; Kaiser, Sven-Erik[Kaiser.Sven-Erik@epa.gov]; Borum, Denis[Borum.Denis@epa.gov]
From: Asher, Jonathan
Sent: Tue 9/29/2015 3:50:57 PM
Subject: RE: Meetings with Sens. Gillibrand and Peters

Thanks, Catherine! This is super helpful. I'd gotten some stuff from the region and with the Mayor's visit but this ties up a couple of the loose ends there and puts other pieces into context. Thanks again, I appreciate it.

From: Davis, CatherineM
Sent: Tuesday, September 29, 2015 11:41 AM
To: Kaiser, Sven-Erik; Borum, Denis; Asher, Jonathan
Subject: RE: Meetings with Sens. Gillibrand and Peters

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Cathy Davis

Office of Congressional and
Intergovernmental Relations
202-564-2703
davis.catherinem@epa.gov

Send mail to:

US Environmental Protection Agency
1200 Pennsylvania Ave, NW
MC: 1305A
Washington, DC 20460

From: Kaiser, Sven-Erik
Sent: Tuesday, September 29, 2015 10:23 AM
To: Borum, Denis; Davis, CatherineM; Asher, Jonathan
Subject: Meetings with Sens. Gillibrand and Peters

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Sven

Sven-Erik Kaiser
U.S. EPA
Office of Congressional and Intergovernmental Relations
1200 Pennsylvania Ave., NW (1305A)
Washington, DC 20460

202-566-2753

To: Shoven, Heather[shoven.heather@epa.gov]
From: King, Carol
Sent: Tue 9/29/2015 4:53:10 PM
Subject: FW: Flint happenings

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

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Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

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Date: September 29, 2015 at 12:33:36 PM EDT
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Subject: **Flint happenings**

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To: Grevatt, Peter[Grevatt.Peter@epa.gov]
Cc: Asher, Jonathan[Asher.Jonathan@epa.gov]; Clark, Becki[Clark.Becki@epa.gov]; Christ, Lisa[Christ.Lisa@epa.gov]; King, Carol[King.Carol@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]; Lopez-Carbo, Maria[Lopez-Carbo.Maria@epa.gov]; Galada, Heather[Galada.Heather@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Hedman, Susan[hedman.susan@epa.gov]
From: Hannon, Arnita
Sent: Tue 9/29/2015 4:54:27 PM
Subject: Re: Flint happenings

You're welcome! Region 5 has it all well in hand but of course everyone appreciates the offer of any assistance if needed.

Best,
Arnita

Sent from my iPhone

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To: Kuefler, Janet[kuefler.janet@epa.gov]; Poy, Thomas[poy.thomas@epa.gov]
Cc: Shoven, Heather[shoven.heather@epa.gov]; Porter, Andrea[porters.andrea@epa.gov]; Deltoral, Miguel[deltoral.miguel@epa.gov]
From: Crooks, Jennifer
Sent: Tue 9/29/2015 5:14:33 PM
Subject: RE: MDEQ policy under LCR

The original letter that described the Modified Consecutive System approach for Detroit (1991 letter), stated there were 5 water treatment plants using 3 intakes in Lake Huron and in the Detroit River, and all the network of transmission mains, pump stations and reservoirs were under the control of DWSD. The wholesale customers did not alter the water quality or pressure or have the capability to provide additional treatment. At that time, the State said that the individual customers would have no practical way to implement corrosion control measures because of multiple feed points with water delivered on demand from various Detroit reservoirs and different pressure districts. (Flint was not discussed specifically in this letter). It made sense to treat the entire Detroit service area as one system; then all the consecutive systems would be on the same schedule, would sample during the same time periods, and this data would all feed back to the 5 water treatment plants, so they could design the appropriate CCT.

I believe the 90th percentile of lead in Flint during the Detroit days, was 6ppb. So, if a water system is exceeding the AL and it is a consecutive system, the State could say that it has OCCT, and the system would need to do PE and replace LSLs, according to the rule. If the rule doesn't require it, the State most likely won't do it under the current thinking at MDEQ.

But, it would be a reasonable request to negotiate a change in the consecutive system policy. Each system will be a unique situation, depending on wholesale OCCT, piping network, source water, feed points from various sources in the distribution system. Most consecutive systems in Detroit in the early 90's had no treatment, so if no existing treatment, adding CCT could be quite expensive.

Another issue to ponder.

Jennifer

From: Kuefler, Janet
Sent: Tuesday, September 29, 2015 7:37 AM
To: Poy, Thomas
Cc: Shoven, Heather; Porter, Andrea; Deltoral, Miguel; Crooks, Jennifer
Subject: MDEQ policy under LCR

http://www.michigan.gov/documents/deq/deq-odwma-399-027_409221_7.pdf

I think you have probably seen this policy already. Do adjustments need to be made to this policy to give responsibility for OCT to consecutives on the Modified Consecutive Systems approach, and not just the wholesaler?

Janet Kuefler

Ground Water and Drinking Water Branch

State Programs Team Leader

United States Environmental Protection Agency, Region 5

77 West Jackson Blvd. (WG-15J)

Chicago, Illinois 60604

(312) 886-0123

kuefler.janet@epa.gov

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Cc: Shoven, Heather[shoven.heather@epa.gov]; Porter, Andrea[porters.andrea@epa.gov]; Deltoral, Miguel[deltoral.miguel@epa.gov]
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(312) 886-0123

kuefler.janet@epa.gov

To: Kuefler, Janet[kuefler.janet@epa.gov]; Poy, Thomas[poy.thomas@epa.gov]
Cc: Shoven, Heather[shoven.heather@epa.gov]; Porter, Andrea[porters.andrea@epa.gov]; Deltoral, Miguel[deltoral.miguel@epa.gov]
From: Crooks, Jennifer
Sent: Tue 9/29/2015 5:14:33 PM
Subject: RE: MDEQ policy under LCR

The original letter that described the Modified Consecutive System approach for Detroit (1991 letter), stated there were 5 water treatment plants using 3 intakes in Lake Huron and in the Detroit River, and all the network of transmission mains, pump stations and reservoirs were under the control of DWSD. The wholesale customers did not alter the water quality or pressure or have the capability to provide additional treatment. At that time, the State said that the individual customers would have no practical way to implement corrosion control measures because of multiple feed points with water delivered on demand from various Detroit reservoirs and different pressure districts. (Flint was not discussed specifically in this letter). It made sense to treat the entire Detroit service area as one system; then all the consecutive systems would be on the same schedule, would sample during the same time periods, and this data would all feed back to the 5 water treatment plants, so they could design the appropriate CCT.

I believe the 90th percentile of lead in Flint during the Detroit days, was 6ppb. So, if a water system is exceeding the AL and it is a consecutive system, the State could say that it has OCCT, and the system would need to do PE and replace LSLs, according to the rule. If the rule doesn't require it, the State most likely won't do it under the current thinking at MDEQ.

But, it would be a reasonable request to negotiate a change in the consecutive system policy. Each system will be a unique situation, depending on wholesale OCCT, piping network, source water, feed points from various sources in the distribution system. Most consecutive systems in Detroit in the early 90's had no treatment, so if no existing treatment, adding CCT could be quite expensive.

Another issue to ponder.

Jennifer

From: Kuefler, Janet
Sent: Tuesday, September 29, 2015 7:37 AM
To: Poy, Thomas
Cc: Shoven, Heather; Porter, Andrea; Deltoral, Miguel; Crooks, Jennifer
Subject: MDEQ policy under LCR

http://www.michigan.gov/documents/deq/deq-odwma-399-027_409221_7.pdf

I think you have probably seen this policy already. Do adjustments need to be made to this policy to give responsibility for OCT to consecutives on the Modified Consecutive Systems approach, and not just the wholesaler?

Janet Kuefler

Ground Water and Drinking Water Branch

State Programs Team Leader

United States Environmental Protection Agency, Region 5

77 West Jackson Blvd. (WG-15J)

Chicago, Illinois 60604

(312) 886-0123

kuefler.janet@epa.gov

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Cc: Shoven, Heather[shoven.heather@epa.gov]; Porter, Andrea[porters.andrea@epa.gov]; Deltoral, Miguel[deltoral.miguel@epa.gov]
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State Programs Team Leader

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Chicago, Illinois 60604

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kuefler.janet@epa.gov

To: Hannon, Arnita[Hannon.Arnita@epa.gov]; Barbery, Andrea[Barbery.Andrea@epa.gov]; Cook-Shyovitz, Becky[Cook-Shyovitz.Becky@epa.gov]; Bowles, Jack[Bowles.Jack@epa.gov]
From: Rupp, Mark
Sent: Tue 9/29/2015 4:33:36 PM
Subject: Flint happenings

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To: Crooks, Jennifer[crooks.jennifer@epa.gov]
From: Porter, Andrea
Sent: Tue 9/29/2015 5:34:18 PM
Subject: FW: flint --> lcr milestone data in sdwis/fed (no info for flint; deem for detroit)
[mi_lcr_milestones.xlsx](#)

fyi

From: Porter, Andrea
Sent: Wednesday, July 01, 2015 2:08 PM
To: Kuefler, Janet; MIGUEL DEL TORAL; Bair, Rita; Damato, Nicholas; Shoven, Heather; Crooks, Jennifer
Subject: flint --> lcr milestone data in sdwis/fed (no info for flint; deem for detroit)

Hi All,

Miguel asked for the LCR milestone data we have in SDWIS/FED for Flint and Detroit. I thought it might be useful for the whole group. For reference, all of the DEEM, DONE, and LSLR data for MI from SDWIS/FED is attached.

There is nothing in SDWIS/FED for Flint DEEM, DONE, or LSLR. There is a DEEM for Detroit, as follows:

SDWIS ID	NAME	SCENARIO	DATE	COMPLETION DATE	STATUS	SYSTEM	POPULATION
MI00180411	DETROIT	DEEM	6/30/1999	5/19/2004	DEEM	System deemed optimized without OCCT	Serving greater than 50,000: met action levels

Isn't it well known that SDWIS/FED data for LCR milestones are unreliable and incomplete? As such, I'm not sure how much we can read into Flint not having any DEEM or DONE milestones in our database.

If there are any other data questions, just let me know. I'm happy to help.

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

From: Kuefler, Janet

Sent: Wednesday, July 01, 2015 1:08 PM

To: MIGUEL DEL TORAL; Bair, Rita; Damato, Nicholas; Shoven, Heather; Crooks, Jennifer; Porter, Andrea

Subject: RE: Long term treatment change/new source citations

I am just wondering when Detroit was deemed optimized, did the notification automatically apply to the consecutives, and were they notified, or did each consecutive get treated as an individual system with separate notification of optimization.

Did the state approve the new source in writing per 141.90 (a)(3)

(3) At a time specified by the State,

or if no specific time is designated by

the State, then as early as possible

prior to the addition of a new source or

any long-term change in water treatment,

a water system deemed to have optimized corrosion control under § 141.81(b)(3), a water system subject to reduced monitoring pursuant to § 141.86(d)(4), or a water system subject to a monitoring waiver pursuant to § 141.86(g), shall submit written documentation to the State describing the change or addition. The State must review and approve the addition of a new source or long-term change in treatment before it is implemented by the water system. Examples of long-term treatment changes include the addition of a new treatment process or modification of an existing treatment process. Examples of modifications include switching secondary disinfectants, switching coagulants (e.g., alum to ferric chloride), and switching corrosion inhibitor products (e.g., orthophosphate to blended phosphate). Long-term changes can include dose changes to existing chemicals if the system is planning long-term changes to its finished water pH or residual inhibitor concentration. Long-term treatment changes would not include

chemical dose fluctuations associated
with daily raw water quality changes

Janet Kuefler

Ground Water and Drinking Water Branch

State Programs Team Leader

United States Environmental Protection Agency, Region 5

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Chicago, Illinois 60604

(312) 886-0123

kuefler.janet@epa.gov

From: MIGUEL DEL TORAL [<mailto:thedeltorals@sbcglobal.net>]

Sent: Wednesday, July 01, 2015 11:25 AM

To: Bair, Rita; Damato, Nicholas; Shoven, Heather; Crooks, Jennifer; Kuefler, Janet; Porter, Andrea

Subject: Long term treatment change/new source citations

Here are the three places that discuss long-term treatment change and new source requirements and state authorities.

Long-term Change(s) in Treatment or Addition of New Source(s)

This first provision applies to systems that are deemed optimized in accordance with the criteria in 141.81(b)(3) [low lead levels]

141.81(b)(3)(iii)

Any water system deemed to have optimized corrosion control pursuant to this paragraph shall notify the State in writing pursuant to § 141.90(a)(3) of any upcoming long-term change in treatment or addition of a new source as described in that section. The State must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The State may require any such system to conduct additional monitoring or to take other action the State deems appropriate to ensure that such systems maintain minimal levels of corrosion in the distribution system.

This second provision applies to all systems on reduced monitoring

141.86(d)(4)(vii)

Any water system subject to a reduced monitoring frequency under paragraph (d)(4) of this section shall notify the State in writing in accordance with § 141.90(a)(3) of any upcoming long-term change in treatment or addition of a new source as described in that section. The State must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The State may require the system to resume sampling in accordance with paragraph (d)(3) of this section and collect the number of samples specified for standard monitoring under paragraph (c) of this section or take other appropriate steps such as increased water quality parameter monitoring or re-evaluation of its corrosion control treatment given the potentially different water quality considerations.

This third provision is only applicable to systems that get lead/copper monitoring waivers and would not apply to Flint.

141.86(g)(4)(iii)

Any water system with a full or partial waiver shall notify the State in writing in accordance with § 141.90(a)(3) of any upcoming long-term change in treatment or addition of a new source, as described in that section. The State must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The State has the authority to require the system to add or modify waiver conditions (e.g., require recertification that the system is free of lead-containing and/or copper-containing materials, require additional round(s) of monitoring), if it deems such modifications are necessary to address treatment or source water changes at the system.

Miguel

To: Kelley, Jeff[kelley.jeff@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
From: Singer, Joshua
Sent: Tue 9/29/2015 4:35:47 PM
Subject: Detroit Free Press: Doctor: Lead seen in more Flint kids since water switch

FYI, in case you haven't seen it already.

Josh Singer

U.S. EPA, Region 5

phone: 312-353-5069

singer.joshua@epa.gov

Doctor: Lead seen in more Flint kids since water switch

By Robin Erb, Detroit Free Press 6:44 p.m. EDT September 25, 2015

Number of Flint children with lead poisoning jumps after Flint water switch, says researcher.



Buy Photo

Tony Pallaeeno Jr. holds a sample of water he boiled water from his house including a sand deposit and iron, while protesting the quality of water in front of Flint City Hall on Wednesday January 21, 2015 in downtown Flint.(Photo: Ryan Garza, Detroit Free Press)Buy Photo

Flint's ongoing water woes are now associated with an immediate and irreversible danger — possible lead poisoning of some of the city's children, according to a review of blood test results by a Hurley Children's Hospital pediatrician.

"I was hoping not to find anything, but what we found ... is concerning," said Dr. Mona Hanna-Attisha who also leads the pediatric residency program at Michigan State University's College of Human Medicine.

"This is not something you mess around with," she said. "Our population already has so many issues from poverty, from unemployment, from violence."

State officials say their own review of blood test results have not shown the same increase that Hanna-Attisha found. Moreover, water tests have similarly shown lead within federally accepted levels, they say.

Hanna-Attisha examined results from blood samples of Genesee County children taken both before and after the city ended its water contract with the Detroit Water and Sewerage Department and began pulling water from the Flint River.

The number of Flint children with elevated blood-lead levels — 5 micrograms per deciliter or more — jumped from 2.1% in the 20 months prior to Sept. 15, 2013, to 4.0% between Jan. 1 and Sept. 15 this year. In certain ZIP Codes, the change was even more troubling, she said — jumping from 2.5% of the children tested to 6.3%.

Blood is often drawn by pediatricians as part of routine lead-level testing, especially among children who are on Medicaid. That gave Hanna-Attisha 1,746 test results from Flint children to compare against 1,640 results from elsewhere in Genesee County. Children in Genesee County outside of Flint showed no significant increase in blood-lead levels.

Health officials have said no lead levels are safe. Lead can lead to serious developmental problems, reducing a child's IQ and causing serious behavioral and emotional problems. Though levels can fall in individuals over time, the damage is permanent.

If Hanna-Attisha's analysis is correct, this upward trend in Flint interrupts years of progress in reducing dangerous blood-lead levels.

State data show that the percentage of children with elevated blood lead levels have been falling for years. In fact in 2013, 3.6% of Flint children younger than 6 had elevated blood-lead levels, compared with the state-wide rate of 3.9%.

Though Hanna-Attisha's review didn't try to determine cause, "we can't think of another reason" for the trend other than the change in Flint's water source.

The review is sure to ratchet up tension in Flint.

In 2014, city officials ended the city's contract with the Detroit Water and Sewerage Department, saying that water costs were too high. They opted instead to pull from the Karegnondi Water Authority, which is building a system to supply Genesee County with water pulled from Lake Huron. In the long run, this will mean lower water costs, officials have said.

But until the new system comes online in 2016, Flint is temporarily pulling water from the Flint River. Since it made the switch, residents have complained that the water smells, is discolored and makes them sick.

Soon after the switch, tests indicated the presence of coliform bacteria, which can suggest the presence of other disease-carrying pathogens. The water was then treated with disinfectants, and city officials maintain the water is safe.

The question is not that whether there is a higher level of lead in water from the Flint River — it's that river water may be more corrosive as it travels through lead pipes on residential properties and in homes, said Brad Wurfel, a spokesman for the Michigan Department of Environmental Quality. About 15,000 of the 40,000 Flint customers have lead pipes connecting to the city system, he said.

But he said testing has shown that lead levels in the Flint water system — both before and after the switch in 2014 — have been under the acceptable limit of 15 parts per billion during every three-year testing cycle since 1992. Additionally, two rounds of supplemented tests since the system switch put lead levels at 6 parts per billion and then at 11 parts per billion — a change that Wurfel said fits in line with previous fluctuations.

Congressman Dan Kildee, a Flint Democrat, called state and local testing "lackluster."

For one thing, Flint residents collect samples, and there are concerns that there are too few samples and that they represent only some parts of the city. And Wurfel confirmed that about 60 bottles of water samples were turned in by citizens in the last round of testing, even though 200 bottles were sent out.

In the best of circumstances — with enough sampling and previous clean tests of water — citizen sampling might be adequate. But, in Flint — where there's a major change in the system that some residents say have led to health problems, "it seems to be a much higher standard would apply," Kildee said.

In addition to water testing, Wurfel said state public health officials have reexamined results of blood-lead level testing among Flint children. In short, that data doesn't show the same upward trend that Hanna-Attisha's found, he said.

Wurfel said environmental officials aren't taking the matter lightly, and they realize the water system is in "dire" need of an overhaul. They've requested a meeting with U.S. Environmental Protection Agency authorities to "review protocols" to make sure the state's testing is adequate.

"Lead is serious. Lead builds up. Lead effects children. It's not something we take lightly," he said. "We're confident with what we've done, but we know there are concerns."

Angela Minicuci, a spokeswoman for the Michigan Department of Health and Human Services, any increase in the past year in blood-lead levels among Flint children is attributed to predictable seasonal spikes.

In the year preceding the change in the water system, 95 Flint children younger than 16, or 2.4% of those tested, had elevated blood-lead levels, according to state data. The following year, 123 children, or 3.2%, of those tested had elevated blood-lead levels.

There is "cause for concern in Flint," but it cannot be attributed to the water, she said.

Contact Robin Erb: rerb@freepress.com or 313-222-2708. Follow her on Twitter [@Freepehealth](https://twitter.com/Freepehealth).

Free Press staff writer Kristi Tanner contributed to this report.

Lead's toll on children:

Lead can affect many parts of the body, and is most harmful when there is repeated exposure, even to small amounts. Even low levels of lead exposure can harm a child's mental development, and the problems worsen as blood-lead levels get higher.

The younger the child, the more harmful the exposure; unborn children are the most vulnerable, according to the National Institutes of Health.

Among possible complications:

- Behavior or attention problems
- Failure at school
- Hearing problems
- Kidney damage
- Reduced IQ
- Slowed body growth

Very high levels of lead may cause vomiting, a staggering walk, muscle weakness, seizures, or coma.

For more information, visit www.cdc.gov. Search "lead poisoning."

To: Rupp, Mark[Rupp.Mark@epa.gov]
Cc: Barbery, Andrea[Barbery.Andrea@epa.gov]; Cook-Shyovitz, Becky[Cook-Shyovitz.Becky@epa.gov]; Bowles, Jack[Bowles.Jack@epa.gov]; Asher, Jonathan[Asher.Jonathan@epa.gov]
From: Hannon, Arnita
Sent: Tue 9/29/2015 4:36:35 PM
Subject: Re: Flint happenings

Thanks Mark! Yes Tinka and Timothy in Region 5 are among those all over this one. So glad to see all of this action!

Sent from my iPhone

On Sep 29, 2015, at 12:33 PM, Rupp, Mark <Rupp.Mark@epa.gov> wrote:

The State and City are pulling together a “ten point plan” and they have asked for EPA's help to work out the details. The goal is to have a press conference on Thursday or Friday to announce the following:

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To: Shoven, Heather[shoven.heather@epa.gov]
Bcc: Deltoral, Miguel[deltoral.miguel@epa.gov]
From: Damato, Nicholas
Sent: Tue 9/29/2015 5:40:13 PM
Subject: RE: FYI from HQ: Flint happenings

Hi Heather,

Interesting message. Begs a couple of questions though. Have they suddenly discovered where all of the lead service lines are? They didn't seem to know before. What sampling protocol are they going to use when sampling the schools and homes? Will the samples from the households be considered compliance samples? Will Darren & Mike be the EPA folks helping to "work out the details"? (I hope so – everything else is either Flint or the state). I would hope the plan gets a "thumbs up" from our technical folks before we go out publically endorsing it.

Nick

From: Shoven, Heather
Sent: Tuesday, September 29, 2015 11:59 AM
To: Bair, Rita; Deltoral, Miguel; Damato, Nicholas; Poy, Thomas; Porter, Andrea; Glowacki, Joanna; Darman, Leslie; Crooks, Jennifer
Subject: FYI from HQ: Flint happenings

From: King, Carol
Sent: Tuesday, September 29, 2015 11:53 AM
To: Shoven, Heather
Subject: FW: Flint happenings

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo,

Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

Thanks Arnita. I had not seen this. Please let me know if you need any assistance from us.

Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

FYI! Sorry if you already have this but just making sure.

Thank you!

Sent from my iPhone

Begin forwarded message:

From: "Rupp, Mark" <Rupp.Mark@epa.gov>
Date: September 29, 2015 at 12:33:36 PM EDT
To: "Hannon, Arnita" <Hannon.Arnita@epa.gov>, "Barbery, Andrea" <Barbery.Andrea@epa.gov>, "Cook-Shyovitz, Becky" <Cook-Shyovitz.Bekky@epa.gov>, "Bowles, Jack" <Bowles.Jack@epa.gov>
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From: Damato, Nicholas
Sent: Tue 9/29/2015 5:40:13 PM
Subject: RE: FYI from HQ: Flint happenings

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Interesting message. Begs a couple of questions though. Have they suddenly discovered where all of the lead service lines are? They didn't seem to know before. What sampling protocol are they going to use when sampling the schools and homes? Will the samples from the households be considered compliance samples? Will Darren & Mike be the EPA folks helping to "work out the details"? (I hope so – everything else is either Flint or the state). I would hope the plan gets a "thumbs up" from our technical folks before we go out publically endorsing it.

Nick

From: Shoven, Heather
Sent: Tuesday, September 29, 2015 11:59 AM
To: Bair, Rita; Deltoral, Miguel; Damato, Nicholas; Poy, Thomas; Porter, Andrea; Glowacki, Joanna; Darman, Leslie; Crooks, Jennifer
Subject: FYI from HQ: Flint happenings

From: King, Carol
Sent: Tuesday, September 29, 2015 11:53 AM
To: Shoven, Heather
Subject: FW: Flint happenings

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan

Subject: Re: Flint happenings

Thanks Arnita. I had not seen this. Please let me know if you need any assistance from us.

Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

FYI! Sorry if you already have this but just making sure.

Thank you!

Sent from my iPhone

Begin forwarded message:

From: "Rupp, Mark" <Rupp.Mark@epa.gov>
Date: September 29, 2015 at 12:33:36 PM EDT
To: "Hannon, Arnita" <Hannon.Arnita@epa.gov>, "Barbery, Andrea" <Barbery.Andrea@epa.gov>, "Cook-Shyovitz, Becky" <Cook-Shyovitz.Bekky@epa.gov>, "Bowles, Jack" <Bowles.Jack@epa.gov>
Subject: Flint happenings

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To: Shoven, Heather[shoven.heather@epa.gov]
From: Damato, Nicholas
Sent: Tue 9/29/2015 5:40:13 PM
Subject: RE: FYI from HQ: Flint happenings

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To: Asher, Jonathan[Asher.Jonathan@epa.gov]; Clark, Becki[Clark.Becki@epa.gov]; Christ, Lisa[Christ.Lisa@epa.gov]; King, Carol[King.Carol@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]; Lopez-Carbo, Maria[Lopez-Carbo.Maria@epa.gov]
Cc: Grevatt, Peter[Grevatt.Peter@epa.gov]
From: Hannon, Arnita
Sent: Tue 9/29/2015 4:40:22 PM
Subject: Fwd: Flint happenings

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To: Kelley, Jeff[kelley.jeff@epa.gov]
Cc: Hyde, Tinka[hyde.tinka@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]; Arcaute, Francisco[Arcaute.Francisco@epa.gov]
From: Poy, Thomas
Sent: Tue 9/29/2015 4:44:32 PM
Subject: RE: Flint water interim report - media request

Jeff: Corrosion control is required of large water systems.

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 9:12 AM
To: Poy, Thomas
Cc: Hyde, Tinka; Cassell, Peter; Arcaute, Francisco
Subject: FW: Flint water interim report - media request

Tom, a follow-up question from Michigan Radio...

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Tuesday, September 29, 2015 9:03 AM
To: Kelley, Jeff
Cc: Arcaute, Francisco; Rowan, Anne; Sarah Hulett; Cassell, Peter
Subject: Re: Flint water interim report - media request

Thanks Jeff,

I guess my only follow up is - is it fair to assume corrosion control is, in fact, required of large water systems? I did a lot of reading yesterday and from what I can tell, it is. It would be very helpful if one of you can clarify.

Best~

On Mon, Sep 28, 2015 at 5:11 PM, Kelley, Jeff <kelley.jeff@epa.gov> wrote:

Lindsey,

EPA is working to finalize the field report. In the meantime, EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley

Director, Office of External Communications
U.S. EPA Region 5
ph: [312-353-1159](tel:312-353-1159)

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Monday, September 28, 2015 2:18 PM
To: Arcaute, Francisco
Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
Subject: Re: Flint water interim report - media request

Any luck? I colleague is filing for the national network very shortly and we're trying to understand if corrosion control **is** required, as that memo says it is. Best~

On Mon, Sep 28, 2015 at 10:06 AM, Arcaute, Francisco <Arcaute.Francisco@epa.gov> wrote:

Chasing down...

Thanks

F

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

Hi Anne,

Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

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From: Grevatt, Peter
Sent: Tue 9/29/2015 4:48:20 PM
Subject: Re: Flint happenings

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Sent from my iPhone

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To: Denton, Loren[denton.loren@epa.gov]; Theis, Joseph[Theis.Joseph@epa.gov]; Pollins, Mark[Pollins.Mark@epa.gov]
From: King, Carol
Sent: Tue 9/29/2015 4:52:58 PM
Subject: FW: Flint happenings

Below is a message Peter Grevatt just forwarded from Mark Rupp and Arnita Hannon. Among other things, it mentions plan for bottled water and filters.

Can we please touch base in light of this morning's meeting and latest below?

Thanks,
Carol

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
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To: Viveiros, Edward[Viveiros.Edward@epa.gov]
Cc: Moriarty, Edward[Moriarty.EdwardJ@epa.gov]; Banks, Victoria[Banks.Victoria@epa.gov]
From: Lopez-Carbo, Maria
Sent: Tue 9/29/2015 4:52:29 PM
Subject: FW: Flint happenings

Eddie – please include the information below in your write up.

Thanks.

Maria

P.S. – Ed can you help Eddie start regional/monthly LCR meetings? Not sure if these have been happening.

Thanks.

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From: King, Carol
Sent: Tue 9/29/2015 4:53:56 PM
Subject: RE: Flint happenings

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Carol DeMarco King, Attorney-Advisor
United States Environmental Protection Agency
Office of Enforcement and Compliance Assurance
Office of Civil Enforcement/Water Enforcement Division
1200 Pennsylvania Ave., NW (Mail Code 2243A)
Washington, DC 20460
Phone: (202) 564-2412
Fax: (202) 564-0024
Email: king.carol@epa.gov

CONFIDENTIAL: This transmission may contain deliberative, attorney-client, attorney work product or otherwise privileged material. Do not release under FOIA without appropriate review. If this message was sent to you in error, you are instructed to delete this message from your machine and all storage media whether electronic or hard copy.

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To: Grevatt, Peter[Grevatt.Peter@epa.gov]
Cc: Asher, Jonathan[Asher.Jonathan@epa.gov]; Clark, Becki[Clark.Becki@epa.gov]; Christ, Lisa[Christ.Lisa@epa.gov]; King, Carol[King.Carol@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]; Lopez-Carbo, Maria[Lopez-Carbo.Maria@epa.gov]; Galada, Heather[Galada.Heather@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Hedman, Susan[hedman.susan@epa.gov]
From: Hannon, Arnita
Sent: Tue 9/29/2015 4:54:27 PM
Subject: Re: Flint happenings

You're welcome! Region 5 has it all well in hand but of course everyone appreciates the offer of any assistance if needed.

Best,
Arnita

Sent from my iPhone

On Sep 29, 2015, at 12:48 PM, Grevatt, Peter <Grevatt.Peter@epa.gov> wrote:

Thanks Arnita. I had not seen this. Please let me know if you need any assistance from us.

Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

FYI! Sorry if you already have this but just making sure.

Thank you!

Sent from my iPhone

Begin forwarded message:

From: "Rupp, Mark" <Rupp.Mark@epa.gov>
Date: September 29, 2015 at 12:33:36 PM EDT
To: "Hannon, Arnita" <Hannon.Arnita@epa.gov>, "Barbery, Andrea" <Barbery.Andrea@epa.gov>, "Cook-Shyovitz, Becky" <Cook-Shyovitz.Becky@epa.gov>, "Bowles, Jack" <Bowles.Jack@epa.gov>
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To: Henry, Timothy[henry.timothy@epa.gov]; Poy, Thomas[poy.thomas@epa.gov]
From: Hyde, Tinka
Sent: Tue 9/29/2015 5:56:47 PM
Subject: FW: Flint happenings

FYI – Please don't distribute further --

From: Pollins, Mark
Sent: Tuesday, September 29, 2015 12:21 PM
To: Hyde, Tinka
Subject: Fwd: Flint happenings

Sent from my iPhone

Begin forwarded message:

From: "King, Carol" <King.Carol@epa.gov>
Date: September 29, 2015 at 12:52:58 PM EDT
To: "Denton, Loren" <Denton.Loren@epa.gov>, "Theis, Joseph" <Theis.Joseph@epa.gov>, "Pollins, Mark" <Pollins.Mark@epa.gov>
Subject: FW: Flint happenings

Below is a message Peter Grevatt just forwarded from Mark Rupp and Arnita Hannon. Among other things, it mentions plan for bottled water and filters.

Can we please touch base in light of this morning's meeting and latest below?

Thanks,
Carol

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

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Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

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Sent from my iPhone

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To: King, Carol[King.Carol@epa.gov]
From: Hannon, Arnita
Sent: Tue 9/29/2015 4:58:26 PM
Subject: Re: Flint happenings

My pleasure Carol!

Sent from my iPhone

On Sep 29, 2015, at 12:53 PM, King, Carol <King.Carol@epa.gov> wrote:

Thank you for sending this message. I had not seen it yet.

Carol DeMarco King, Attorney-Advisor
United States Environmental Protection Agency
Office of Enforcement and Compliance Assurance
Office of Civil Enforcement/Water Enforcement Division
1200 Pennsylvania Ave., NW (Mail Code 2243A)
Washington, DC 20460
Phone: (202) 564-2412
Fax: (202) 564-0024
Email: king.carol@epa.gov

CONFIDENTIAL: This transmission may contain deliberative, attorney-client, attorney work product or otherwise privileged material. Do not release under FOIA without appropriate review. If this message was sent to you in error, you are instructed to delete this message from your machine and all storage media whether electronic or hard copy.

From: Hannon, Arnita
Sent: Tuesday, September 29, 2015 12:40 PM
To: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria
Cc: Grevatt, Peter

Subject: Fwd: Flint happenings

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Thank you!

Sent from my iPhone

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Date: September 29, 2015 at 12:33:36 PM EDT
To: "Hannon, Arnita" <Hannon.Arnita@epa.gov>, "Barbery, Andrea" <Barbery.Andrea@epa.gov>, "Cook-Shyovitz, Becky" <Cook-Shyovitz.Bekky@epa.gov>, "Bowles, Jack" <Bowles.Jack@epa.gov>
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To: Grevatt, Peter[Grevatt.Peter@epa.gov]
From: Clark, Becki
Sent: Tue 9/29/2015 5:08:30 PM
Subject: Re: Flint happenings

Wow, this has moved fast.

Sent from my iPhone

On Sep 29, 2015, at 10:48 AM, Grevatt, Peter <Grevatt.Peter@epa.gov> wrote:

Thanks Arnita. I had not seen this. Please let me know if you need any assistance from us.

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To: Melissa Harrison (Harrison.Melissa@epa.gov)[Harrison.Melissa@epa.gov]
From: Kelley, Jeff
Sent: Tue 9/29/2015 6:13:57 PM
Subject: Flint statement

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. MDEQ determined that although recent lead monitoring shows Flint has not exceeded the lead action level (15 ug/L), the results indicate Flint does not have optimized corrosion control. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

To: Kelley, Rosemarie[Kelley.Rosemarie@epa.gov]; Shinkman, Susan[Shinkman.Susan@epa.gov]
Cc: Theis, Joseph[Theis.Joseph@epa.gov]; Denton, Loren[Denton.Loren@epa.gov]; King, Carol[King.Carol@epa.gov]
From: Pollins, Mark
Sent: Tue 9/29/2015 5:19:13 PM
Subject: Fwd: Flint happenings

The latest info. See the Rupp email for the ten point plan. We can discuss.

Sent from my iPhone

Begin forwarded message:

From: "King, Carol" <King.Carol@epa.gov>
Date: September 29, 2015 at 12:52:58 PM EDT
To: "Denton, Loren" <Denton.Loren@epa.gov>, "Theis, Joseph" <Theis.Joseph@epa.gov>, "Pollins, Mark" <Pollins.Mark@epa.gov>
Subject: FW: Flint happenings

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Carol

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To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

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Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

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To: Wehling, Carrie[Wehling.Carrie@epa.gov]
From: Darman, Leslie
Sent: Tue 9/29/2015 5:19:46 PM
Subject: FW: FYI from HQ: Flint happenings

FYI – looks like there may be progress on the situation in Flint.

Leslie Darman

Office of General Counsel

Water Law Office

202-564-5452

From: Shoven, Heather
Sent: Tuesday, September 29, 2015 12:59 PM
To: Bair, Rita; Deltoral, Miguel; Damato, Nicholas; Poy, Thomas; Porter, Andrea; Glowacki, Joanna; Darman, Leslie; Crooks, Jennifer
Subject: FYI from HQ: Flint happenings

From: King, Carol
Sent: Tuesday, September 29, 2015 11:53 AM
To: Shoven, Heather
Subject: FW: Flint happenings

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

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To: Hyde, Tinka[hyde.tinka@epa.gov]
From: Pollins, Mark
Sent: Tue 9/29/2015 5:20:51 PM
Subject: Fwd: Flint happenings

Sent from my iPhone

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Date: September 29, 2015 at 12:52:58 PM EDT
To: "Denton, Loren" <Denton.Loren@epa.gov>, "Theis, Joseph" <Theis.Joseph@epa.gov>, "Pollins, Mark" <Pollins.Mark@epa.gov>
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To: Crooks, Jennifer[crooks.jennifer@epa.gov]
From: Porter, Andrea
Sent: Tue 9/29/2015 5:34:18 PM
Subject: FW: flint --> lcr milestone data in sdwis/fed (no info for flint; deem for detroit)
[mi_lcr_milestones.xlsx](#)

fyi

From: Porter, Andrea
Sent: Wednesday, July 01, 2015 2:08 PM
To: Kuefler, Janet; MIGUEL DEL TORAL; Bair, Rita; Damato, Nicholas; Shoven, Heather; Crooks, Jennifer
Subject: flint --> lcr milestone data in sdwis/fed (no info for flint; deem for detroit)

Hi All,

Miguel asked for the LCR milestone data we have in SDWIS/FED for Flint and Detroit. I thought it might be useful for the whole group. For reference, all of the DEEM, DONE, and LSLR data for MI from SDWIS/FED is attached.

There is nothing in SDWIS/FED for Flint DEEM, DONE, or LSLR. There is a DEEM for Detroit, as follows:

SDWIS ID	NAME	SCENARIO	DATE	COMPLETION DATE	STATUS	SYSTEM	POPULATION
MI000180411	DETROIT	OF	6/30/1999	5/19/2004	DEEM	System deemed optimized without OCCT	Serving greater than 50,000: met action levels

Isn't it well known that SDWIS/FED data for LCR milestones are unreliable and incomplete? As such, I'm not sure how much we can read into Flint not having any DEEM or DONE milestones in our database.

If there are any other data questions, just let me know. I'm happy to help.

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

From: Kuefler, Janet

Sent: Wednesday, July 01, 2015 1:08 PM

To: MIGUEL DEL TORAL; Bair, Rita; Damato, Nicholas; Shoven, Heather; Crooks, Jennifer; Porter, Andrea

Subject: RE: Long term treatment change/new source citations

I am just wondering when Detroit was deemed optimized, did the notification automatically apply to the consecutives, and were they notified, or did each consecutive get treated as an individual system with separate notification of optimization.

Did the state approve the new source in writing per 141.90 (a)(3)

(3) At a time specified by the State,

or if no specific time is designated by

the State, then as early as possible

prior to the addition of a new source or

any long-term change in water treatment,

a water system deemed to have optimized corrosion control under § 141.81(b)(3), a water system subject to reduced monitoring pursuant to § 141.86(d)(4), or a water system subject to a monitoring waiver pursuant to § 141.86(g), shall submit written documentation to the State describing the change or addition. The State must review and approve the addition of a new source or long-term change in treatment before it is implemented by the water system. Examples of long-term treatment changes include the addition of a new treatment process or modification of an existing treatment process. Examples of modifications include switching secondary disinfectants, switching coagulants (e.g., alum to ferric chloride), and switching corrosion inhibitor products (e.g., orthophosphate to blended phosphate). Long-term changes can include dose changes to existing chemicals if the system is planning long-term changes to its finished water pH or residual inhibitor concentration. Long-term treatment changes would not include

chemical dose fluctuations associated
with daily raw water quality changes

Janet Kuefler

Ground Water and Drinking Water Branch

State Programs Team Leader

United States Environmental Protection Agency, Region 5

77 West Jackson Blvd. (WG-15J)

Chicago, Illinois 60604

(312) 886-0123

kuefler.janet@epa.gov

From: MIGUEL DEL TORAL [[mailto:](#) **Personal Email / Ex. 6**]

Sent: Wednesday, July 01, 2015 11:25 AM

To: Bair, Rita; Damato, Nicholas; Shoven, Heather; Crooks, Jennifer; Kuefler, Janet; Porter, Andrea

Subject: Long term treatment change/new source citations

Here are the three places that discuss long-term treatment change and new source requirements and state authorities.

Long-term Change(s) in Treatment or Addition of New Source(s)

This first provision applies to systems that are deemed optimized in accordance with the criteria in 141.81(b)(3) [low lead levels]

141.81(b)(3)(iii)

Any water system deemed to have optimized corrosion control pursuant to this paragraph shall notify the State in writing pursuant to § 141.90(a)(3) of any upcoming long-term change in treatment or addition of a new source as described in that section. The State must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The State may require any such system to conduct additional monitoring or to take other action the State deems appropriate to ensure that such systems maintain minimal levels of corrosion in the distribution system.

This second provision applies to all systems on reduced monitoring

141.86(d)(4)(vii)

Any water system subject to a reduced monitoring frequency under paragraph (d)(4) of this section shall notify the State in writing in accordance with § 141.90(a)(3) of any upcoming long-term change in treatment or addition of a new source as described in that section. The State must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The State may require the system to resume sampling in accordance with paragraph (d)(3) of this section and collect the number of samples specified for standard monitoring under paragraph (c) of this section or take other appropriate steps such as increased water quality parameter monitoring or re-evaluation of its corrosion control treatment given the potentially different water quality considerations.

This third provision is only applicable to systems that get lead/copper monitoring waivers and would not apply to Flint.

141.86(g)(4)(iii)

Any water system with a full or partial waiver shall notify the State in writing in accordance with § 141.90(a)(3) of any upcoming long-term change in treatment or addition of a new source, as described in that section. The State must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The State has the authority to require the system to add or modify waiver conditions (e.g., require recertification that the system is free of lead-containing and/or copper-containing materials, require additional round(s) of monitoring), if it deems such modifications are necessary to address treatment or source water changes at the system.

Miguel

To: Shoven, Heather[shoven.heather@epa.gov]
Bcc: Deltoral, Miguel[deltoral.miguel@epa.gov]
From: Damato, Nicholas
Sent: Tue 9/29/2015 5:40:14 PM
Subject: RE: FYI from HQ: Flint happenings

Hi Heather,

Interesting message. Begs a couple of questions though. Have they suddenly discovered where all of the lead service lines are? They didn't seem to know before. What sampling protocol are they going to use when sampling the schools and homes? Will the samples from the households be considered compliance samples? Will Darren & Mike be the EPA folks helping to "work out the details"? (I hope so – everything else is either Flint or the state). I would hope the plan gets a "thumbs up" from our technical folks before we go out publically endorsing it.

Nick

From: Shoven, Heather
Sent: Tuesday, September 29, 2015 11:59 AM
To: Bair, Rita; Deltoral, Miguel; Damato, Nicholas; Poy, Thomas; Porter, Andrea; Glowacki, Joanna; Darman, Leslie; Crooks, Jennifer
Subject: FYI from HQ: Flint happenings

From: King, Carol
Sent: Tuesday, September 29, 2015 11:53 AM
To: Shoven, Heather
Subject: FW: Flint happenings

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo,

Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

Thanks Arnita. I had not seen this. Please let me know if you need any assistance from us.

Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

FYI! Sorry if you already have this but just making sure.

Thank you!

Sent from my iPhone

Begin forwarded message:

From: "Rupp, Mark" <Rupp.Mark@epa.gov>
Date: September 29, 2015 at 12:33:36 PM EDT
To: "Hannon, Arnita" <Hannon.Arnita@epa.gov>, "Barbery, Andrea" <Barbery.Andrea@epa.gov>, "Cook-Shyovitz, Becky" <Cook-Shyovitz.Becky@epa.gov>, "Bowles, Jack" <Bowles.Jack@epa.gov>
Subject: Flint happenings

The State and City are pulling together a "ten point plan" and they have asked for EPA's help to work out the details. The goal is to have a press conference on Thursday or Friday to announce the following:

1. Bottled water and pre-mixed formula for households with infants and children (the Michigan Department of Health and Human Services is working with USDA to do this through the WIC program)
2. Lead filters for households with infants and children (a group of nonprofits has pledged \$1 million for this purpose and will be working with the Meijer discount chain to obtain filters at wholesale.)

3. Water will be tested for lead in all Flint schools. (MDEQ)
4. Water will be tested for lead in all Flint households with lead service lines that have infants and children. (MDEQ)
5. All other Flint households can request a free water test. (MDEQ)
6. The State will step up health advisory/public education efforts to encourage flushing and use of filters (MDEQ/MDHHS)
7. MDEQ will establish an end date for Flint to complete implementation of fully-optimized corrosion control – and move up the start date to commence implementation of corrosion control. (The current start date is 1/16)
8. MDEQ will expand the City's Technical Advisory Committee by adding several University of Michigan scientists and will immediately convene the committee. (This committee includes ORD scientists from the Cincinnati Lab)
9. The State of Michigan's "Chief Medical Executive" will oversee a review of data that has been collected on Flint children's blood lead levels.
10. MDEQ will help Flint finance accelerated replacement of lead service lines (using SRF)

The Mayor and Director Wyant have asked Susan to go to Flint to participate in the press conference. The Mayor has also asked Susan to meet with a group of faith leaders who have been very vocal on this issue: <http://www.abc12.com/home/headlines/Rally-held--329788391.html>

To: Poy, Thomas[poy.thomas@epa.gov]; Kelley, Jeff[kelley.jeff@epa.gov]
Cc: Hyde, Tinka[hyde.tinka@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]
From: Arcaute, Francisco
Sent: Tue 9/29/2015 6:48:28 PM
Subject: RE: Flint water interim report - media request

Reporter Lindsey Smith just called – has anyone answered her follow up question?

Thanks

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From: Poy, Thomas
Sent: Tuesday, September 29, 2015 11:45 AM
To: Kelley, Jeff
Cc: Hyde, Tinka; Cassell, Peter; Arcaute, Francisco
Subject: RE: Flint water interim report - media request

Jeff: Corrosion control is required of large water systems.

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 9:12 AM
To: Poy, Thomas
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Subject: FW: Flint water interim report - media request

Tom, a follow-up question from Michigan Radio...

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Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Lindsey Smith [<mailto:lmismi@umich.edu>]
Sent: Tuesday, September 29, 2015 9:03 AM
To: Kelley, Jeff
Cc: Arcaute, Francisco; Rowan, Anne; Sarah Hulett; Cassell, Peter
Subject: Re: Flint water interim report - media request

Thanks Jeff,

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Best~

On Mon, Sep 28, 2015 at 5:11 PM, Kelley, Jeff <kelley.jeff@epa.gov> wrote:

Lindsey,

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EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used

for six hours or longer, “flush” the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

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ph: [312-353-1159](tel:312-353-1159)

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Monday, September 28, 2015 2:18 PM
To: Arcaute, Francisco
Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
Subject: Re: Flint water interim report - media request

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Thanks

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On Mon, Sep 28, 2015 at 5:11 PM, Kelley, Jeff <kelley.jeff@epa.gov> wrote:

Lindsey,

EPA is working to finalize the field report. In the meantime, EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Monday, September 28, 2015 2:18 PM
To: Arcaute, Francisco
Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
Subject: Re: Flint water interim report - media request

Any luck? I colleague is filing for the national network very shortly and we're trying to understand if corrosion control **is** required, as that memo says it is. Best~

On Mon, Sep 28, 2015 at 10:06 AM, Arcaute, Francisco <Arcaute.Francisco@epa.gov> wrote:

Chasing down...

Thanks

F

From: Lindsey Smith [<mailto:lmsmi@umich.edu>]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

Hi Anne,

Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

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Lindsey Smith

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Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

To: Henry, Timothy[henry.timothy@epa.gov]; Poy, Thomas[poy.thomas@epa.gov]
From: Hyde, Tinka
Sent: Tue 9/29/2015 5:56:48 PM
Subject: FW: Flint happenings

FYI – Please don't distribute further --

From: Pollins, Mark
Sent: Tuesday, September 29, 2015 12:21 PM
To: Hyde, Tinka
Subject: Fwd: Flint happenings

Sent from my iPhone

Begin forwarded message:

From: "King, Carol" <King.Carol@epa.gov>
Date: September 29, 2015 at 12:52:58 PM EDT
To: "Denton, Loren" <Denton.Loren@epa.gov>, "Theis, Joseph" <Theis.Joseph@epa.gov>, "Pollins, Mark" <Pollins.Mark@epa.gov>
Subject: FW: Flint happenings

Below is a message Peter Grevatt just forwarded from Mark Rupp and Arnita Hannon. Among other things, it mentions plan for bottled water and filters.

Can we please touch base in light of this morning's meeting and latest below?

Thanks,
Carol

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

Thanks Arnita. I had not seen this. Please let me know if you need any assistance from us.

Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

FYI! Sorry if you already have this but just making sure.

Thank you!

Sent from my iPhone

Begin forwarded message:

From: "Rupp, Mark" <Rupp.Mark@epa.gov>
Date: September 29, 2015 at 12:33:36 PM EDT
To: "Hannon, Arnita" <Hannon.Arnita@epa.gov>, "Barbery, Andrea" <Barbery.Andrea@epa.gov>, "Cook-Shyovitz, Becky" <Cook-Shyovitz.Becky@epa.gov>, "Bowles, Jack" <Bowles.Jack@epa.gov>
Subject: Flint happenings

The State and City are pulling together a "ten point plan" and they have asked for EPA's help to work out the details. The goal is to have a press conference on Thursday or Friday to announce the following:

1. Bottled water and pre-mixed formula for households with infants and children (the Michigan Department of Health and Human Services is working with USDA to do this through the WIC program)
2. Lead filters for households with infants and children (a group of nonprofits has pledged \$1 million for this purpose and will be working with the Meijer discount chain to obtain filters at wholesale.)
3. Water will be tested for lead in all Flint schools. (MDEQ)

4. Water will be tested for lead in all Flint households with lead service lines that have infants and children. (MDEQ)
5. All other Flint households can request a free water test. (MDEQ)
6. The State will step up health advisory/public education efforts to encourage flushing and use of filters (MDEQ/MDHHS)
7. MDEQ will establish an end date for Flint to complete implementation of fully-optimized corrosion control – and move up the start date to commence implementation of corrosion control. (The current start date is 1/16)
8. MDEQ will expand the City's Technical Advisory Committee by adding several University of Michigan scientists and will immediately convene the committee. (This committee includes ORD scientists from the Cincinnati Lab)
9. The State of Michigan's "Chief Medical Executive" will oversee a review of data that has been collected on Flint children's blood lead levels.
10. MDEQ will help Flint finance accelerated replacement of lead service lines (using SRF)

The Mayor and Director Wyant have asked Susan to go to Flint to participate in the press conference. The Mayor has also asked Susan to meet with a group of faith leaders who have been very vocal on this issue: <http://www.abc12.com/home/headlines/Rally-held--329788391.html>

To: Christ, Lisa[Christ.Lisa@epa.gov]
From: Kempic, Jeffrey
Sent: Tue 9/29/2015 6:02:05 PM
Subject: FW: Regulatory basis for Detroit's status as deemed optimized

Lisa,

The latest on Flint – last in a string of emails that are all below.

Jeff

From: Glowacki, Joanna
Sent: Tuesday, September 29, 2015 1:59 PM
To: Shoven, Heather; Darman, Leslie; Deltoral, Miguel; Kempic, Jeffrey; Moriarty, Edward
Cc: Crooks, Jennifer; Porter, Andrea
Subject: Re: Regulatory basis for Detroit's status as deemed optimized

ATTORNEY CLIENT COMMUNICATION
DELIBERATIVE
NOT FOR RELEASE
FOIA EXEMPT

Attorney Client / Ex. 5

Joanna Glowacki
Associate Regional Counsel
U.S. EPA, Region 5
77 West Jackson Boulevard (C-14J)
Chicago, IL 60604
312-353-3757

From: Shoven, Heather
Sent: Tuesday, September 29, 2015 12:42:37 PM
To: Darman, Leslie; Deltoral, Miguel; Kempic, Jeffrey; Moriarty, Edward
Cc: Glowacki, Joanna; Crooks, Jennifer; Porter, Andrea
Subject: RE: Regulatory basis for Detroit's status as deemed optimized

Hi Leslie,

I think that Miguel is out of the office after 12pm Eastern today.

In his absence, Andrea, Jennifer, and I discussed your question and we think that

Attorney Client / Ex. 5

Attorney Client / Ex. 5

Best wishes,

Heather

Heather A. Shoven | Enforcement Team Leader | U.S. Environmental Protection Agency, Region 5

Ground Water and Drinking Water Branch | 77 W. Jackson Blvd (WG-15J) | Chicago, IL 60604 | 312-886-0153

From: Darman, Leslie

Sent: Tuesday, September 29, 2015 11:32 AM

To: Deltoral, Miguel; Shoven, Heather; Kempic, Jeffrey; Moriarty, Edward

Cc: Glowacki, Joanna

Subject: Regulatory basis for Detroit's status as deemed optimized

Attorney Client / Ex. 5

Leslie Darman

Office of General Counsel

Water Law Office

202-564-5452

To: Donaldson, Kristina (DEQ)[DONALDSONK@michigan.gov]
Cc: Shoven, Heather[shoven.heather@epa.gov]; Porter, Andrea[porters.andrea@epa.gov]; kris philip[philipk@michigan.gov]
From: Crooks, Jennifer
Sent: Tue 9/29/2015 7:19:49 PM
Subject: Detroit data in SDWIS
[mi_lcr_milestones.xlsx](#)

Hi, Kris. We were looking at Detroit data in SDWIS this morning, and I'm not sure about some data—see below. Under “Event Milestone Description”, it says about Detroit “System deemed optimized without Optimal Corrosion Control Treatment (OCCT)”, and the reason was “B3”, which is Michigan rule 604f(2)(b)(iii). But I thought that Detroit did exceed the PQL (5ppb) back in the early 90's and that the City did install CCT, so it can't be a B3. Detroit used the Modified Consecutive System approach in the early 90's to collect data from all the sampling at consecutive systems, so it could evaluate the water as a single system. So, I think the above 2 data entries (seen below) are incorrect?

Thank you, Kris.

Jennifer

From: Porter, Andrea
Sent: Tuesday, September 29, 2015 12:34 PM
To: Crooks, Jennifer
Subject: FW: flint --> lcr milestone data in sdwis/fed (no info for flint; deem for detroit)

fyi

SDWIS ID	NAME	EVENT DATE	DESCRIPTION	REASON	DESCRIPTION
MI000180411	DETROIT	6/30/1999	5/19/2004	DEEM	System deemed
				B3	Serving greater than 50,000:

OF

optimized
without
OCCT

met action
levels

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

To: Donaldson, Kristina (DEQ)[DONALDSONK@michigan.gov]
Cc: Shoven, Heather[shoven.heather@epa.gov]; Porter, Andrea[porters.andrea@epa.gov]; kris philip[philipk@michigan.gov]
From: Crooks, Jennifer
Sent: Tue 9/29/2015 7:19:49 PM
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[mi_lcr_milestones.xlsx](#)

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				B3	Serving greater than 50,000:

OF

optimized
without
OCCT

met action
levels

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

To: Donaldson, Kristina (DEQ)[DONALDSONK@michigan.gov]
Cc: Shoven, Heather[shoven.heather@epa.gov]; Porter, Andrea[porters.andrea@epa.gov]; kris philip[philipk@michigan.gov]
From: Crooks, Jennifer
Sent: Tue 9/29/2015 7:19:49 PM
Subject: Detroit data in SDWIS
 mi_lcr_milestones.xlsx

Hi, Kris. We were looking at Detroit data in SDWIS this morning, and I'm not sure about some data—see below. Under “Event Milestone Description”, it says about Detroit “System deemed optimized without Optimal Corrosion Control Treatment (OCCT)”, and the reason was “B3”, which is Michigan rule 604f(2)(b)(iii). But I thought that Detroit did exceed the PQL (5ppb) back in the early 90's and that the City did install CCT, so it can't be a B3. Detroit used the Modified Consecutive System approach in the early 90's to collect data from all the sampling at consecutive systems, so it could evaluate the water as a single system. So, I think the above 2 data entries (seen below) are incorrect?

Thank you, Kris.

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Sent: Tuesday, September 29, 2015 12:34 PM
To: Crooks, Jennifer
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MI000180411	DETROIT	6/30/1999	5/19/2004	DEEM	System deemed
				B3	Serving greater than 50,000:

OF

optimized
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levels

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

To: Clark, Becki[Clark.Beki@epa.gov]
From: Grevatt, Peter
Sent: Tue 9/29/2015 6:26:26 PM
Subject: Fwd: Flint drinking water clips

Motivation to move quickly!

Sent from my iPhone

Begin forwarded message:

From: "Hedman, Susan" <hedman.susan@epa.gov>
Date: September 29, 2015 at 9:14:17 AM CDT
To: "Meiburg, Stan" <Meiburg.Stan@epa.gov>, "Burke, Thomas" <Burke.Thomas@epa.gov>, "Kopocis, Ken" <Kopocis.Ken@epa.gov>, "Grevatt, Peter" <Grevatt.Peter@epa.gov>
Cc: "Vaught, Laura" <Vaught.Laura@epa.gov>, "Reynolds, Thomas" <Reynolds.Thomas@epa.gov>, "Rupp, Mark" <Rupp.Mark@epa.gov>, "Fritz, Matthew" <Fritz.Matthew@epa.gov>
Subject: Fwd: Flint drinking water clips

FYI

Sent from my iPhone

Begin forwarded message:

From: "Kelley, Jeff" <kelley.jeff@epa.gov>
Date: September 29, 2015 at 9:09:22 AM CDT
To: "Hedman, Susan" <hedman.susan@epa.gov>, "Kaplan, Robert" <kaplan.robert@epa.gov>, "Hyde, Tinka" <hyde.tinka@epa.gov>
Cc: "Poy, Thomas" <poy.thomas@epa.gov>, "Henry, Timothy" <henry.timothy@epa.gov>, "Cassell, Peter" <cassell.peter@epa.gov>, "Rowan, Anne" <rowan.anne@epa.gov>, "Deamer, Eileen" <deamer.eileen@epa.gov>, "Fortin, Denise" <Fortin.Denise@epa.gov>, "Beckmann, Ronna Erin" <beckmann.ronna@epa.gov>, "Arcaute, Francisco" <Arcaute.Francisco@epa.gov>
Subject: Flint drinking water clips

Lots of clips this morning ...

- [REDACTED] Clean water activists demand Detroit reconnection in Flint after lead study, Flint Journal
 - [REDACTED] City administrator asks Detroit about reconnecting Flint to Lake Huron, Flint Journal
 - [REDACTED] Flint schools chief seeking water donations for students after lead warning, Flint Journal
 - [REDACTED] Flint officials exploring return to Detroit water, Michigan Radio
 - [REDACTED] Snyder must act on Flint lead crisis, Detroit Free Press
 - [REDACTED] Snyder urged to help Flint reconnect to Detroit water, Detroit News
 - [REDACTED] Study suggests Flint's water causing increased lead poisoning, Michigan Radio
 - [REDACTED] Anger over Flint's water woes is reaching a boiling point, Michigan Radio
 - [REDACTED] Bottled water donations flowing into Flint schools, Michigan Radio
-

http://www.mlive.com/news/flint/index.ssf/2015/09/coalition_for_clean_water_dema.html

Clean water activists demand Detroit reconnection in Flint after lead study

By Molly Young | myoung7@mlive.com

The Flint Journal on September 28, 2015 at 2:54 PM, updated September 29, 2015 at 9:04 AM

FLINT, MI -- The Coalition for Clean Water is demanding Flint's administration switch back to purchasing water from Detroit after recent studies showed a

spike in lead levels in drinking water and in children since the switch to Flint River water more than a year ago.

Dozens of people attended the conference, which was held in the lobby of Flint City Hall Monday morning, Sept. 28. After Pastor Alfred Harris Sr. gave opening remarks, Pastor Allen C. Overton, chair of the grassroots coalition, said during the conference that the recent studies have proven Flint water is unsafe, and that residents must continue pushing city officials for change.

"We have found all the facts, we have found all the information – it's time for the citizens of Flint to demand fresh, clean water from this administration. And they need to understand we are not going away and we want the water source changed immediately," Overton said during the conference.

At one point during the conference, attendees began chanting over Overton: "Fresh, clean water."

Harris said the coalition has met with Mayor Dayne Walling and has reached out to Governor Rick Snyder asking for a sit-down to discuss possible solutions.

Walling said during a press conference Friday, Sept. 25, that he believes the city's use of the river has resulted in an increased risk of lead leaching into drinking water because of the river water's corrosiveness and said he would consider support for reconnecting Flint to the Detroit water system again.

Overton said during the conference that the city has "skewed test procedures and otherwise misrepresented data to the MDEQ."

Walling denied those claims in an email to The Flint Journal on Monday afternoon.

"The City of Flint has followed the guidance from the Michigan Department of Environmental Quality and the U.S. Environmental Protection Agency. Claims to the contrary are false because the City is actually going above and beyond the required standards to ensure the community's health and safety," Walling said.

Walling, speaking at a news conference to issue a lead advisory for the city last week, said he's willing to discuss buying Detroit-treated Lake Huron water again, but he said that decision rests with Gov. Rick Snyder.

His comments came the day after a Hurley Medical Center doctor released a study showing increasing incidents of elevated blood lead levels in Flint children.

In his statement on Monday, Walling said the administration is looking for ways to address health risks in the system.

"I was troubled by the doctors' data on elevated blood levels and I am calling for the collective resources of the federal and state governments and local partners to address all of the immediate concerns and long-term risks with lead in our old system," Walling said. "Every option is on the table to fix Flint's water."

Flint's long-term drinking water plan is still to eventually draw water from a new pipeline to Lake Huron that's being built by the city and Genesee County through the Karegnondi Water Authority.

But the pipeline isn't expected to be completed until some time in 2016 and Flint has struggled with water quality and treatment since switching to the Flint River in the interim.

Overton said the coalition has since asked for a sit-down with city and state officials, but have not yet received a response. He said the coalition is weighing its options, including mass protests, in case there is no response or change announced soon.

"If we do not get a response from either of them we will begin to protest in this city like they have never seen before," Overton said.

Overton and Harris did not say when such an action would be taken, or exactly what it would entail, but insisted they will not back down.

Harris said that in the past, Flint has contributed in a major way to the state's financial stability, and now it's time for the state to repay the city by helping them find a source of clean water.

"Flint deserves the purist water source. Let the state pay for it. Let the federal government pay for it. Let the United Nations pay for it," Harris said.

http://www.mlive.com/news/flint/index.ssf/2015/09/city_administrator_asks_detroi.html

City administrator asks Detroit about reconnecting Flint to Lake Huron

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 28, 2015 at 7:45 PM, updated September 28, 2015 at 8:13 PM

FLINT, MI -- A key official inside City Hall says she's trying to broker a deal to reconnect Flint to the Detroit water system.

City Administrator Natasha Henderson said she's approached the Detroit Water and Sewerage Department about the potential reconnection because of recent concerns about lead levels in treated Flint River water.

Henderson told the City Council today, Sept. 28, that she's attempted to contact representatives of DWSD and the Great Lakes Water Authority, the consortium that will take over day-to-day operation of the Detroit system next year.

The move is significant because Henderson has broad powers in running the city and is the primary contact between the state-appointed Receivership Transition Advisory Board and the rest of city government.

"There is a better chance we would not have as much of a lead problem" if the city stopped using the Flint River, Henderson said. "It is more corrosive (than Detroit-treated Lake Huron water).

The Flint River water "can cause more problems," she said.

Henderson's statements today represent a shift in her approach to the issue of Flint drinking water.

Appointed to her position by former emergency manager Darnell Earley, Henderson has never previously publicly promoted reconnecting Flint to the Detroit water system.

Along with former emergency managers, Henderson has said previously that Flint could not afford to switch back to DWSD water and said today Flint still won't be able to pay for Detroit water without help or lower rates than have been proposed previously.

"I would like the state to help us get back to DWSD if that's possible," the city administrator said. "I would like for the state to help us do that."

Henderson's move comes just days after Mayor Dayne Walling opened the door to returning to the Detroit water system as work continues on the Karegnondi Water Authority pipeline.

Walling had been an advocate of using the Flint River as the city's source of drinking water since it switched from the Detroit water system in April 2014.

But the mayor shifted his approach to the issue last week after a report by Dr. Mona Hanna-Attisha, director of Hurley Medical Center's pediatric residency program, showed a near doubling of the percentage of children living in Flint with elevated blood lead levels since the switch to river water.

The Hurley study followed testing by Virginia Tech, which showed 10 percent of Flint homes tested by the university had 25 parts per billion of lead or more, far more than the allowable level -- 15 ppb -- set in federal guidelines.

City and state officials have said their testing shows Flint's water supply meets all health and safety regulations, never rising above 11 ppb in more than 10 percent of homes during the last 16 months, but data from the state shows lead levels have spiked since the city began using the river as its water source.

Henderson said a return to Detroit water wouldn't eliminate lead but could cut the amount of lead in tap water because treated river water is more corrosive than lake water.

State Sen. Jim Ananich, D-Flint, also today called on the state to assist the city

in reconnecting to the Detroit water system until the completion of the KWA pipeline.

Dave Murray, a spokesman for Snyder, said in a statement today that the governor "and state agencies continue to work with city leaders, looking at a variety of approaches to the problem."

Several city residents continued to speak out about Flint's water during a City Council meeting today and some said Henderson and others should have acted long ago to end the use of river water.

"The city of Flint has eroded the public trust," said Nayyirah Shariff, a representative of the Democracy Defense League, one of the citizen groups fighting against use of the Flint River. "Our children and infants cannot be lost in the shuffle."

http://www.mlive.com/news/flint/index.ssf/2015/09/flint_superintendent_looking_t.html

Flint schools chief seeking water donations for students after lead warning

By Sarah Schuch | sschuch@mlive.com The Flint Journal on September 28, 2015 at 4:05 PM, updated September 28, 2015 at 7:13 PM

FLINT, MI – The Flint School District is seeking donations for bottled water for students following last week's decision to stop using tap water at the schools, the superintendent said.

Donations and support have already started pouring in, but it's not enough, Flint Superintendent Bilal Tawwab said Monday, Sept. 28.

He urged the community to help at a news conference at Pierce Elementary.

"We need your help. On Friday, we all read the advisory as it relates to the water challenges here in Flint," Tawwab said during a press conference. "And I must say, as their champion, I'm going to stand for children and I unfortunately had to make the decision that at this time it would be best that our children no longer drink the water in our Flint Community Schools until further notice."

Two large water donations came to the Flint School District on Monday. Home Depot – the Burton and Pierson Road locations – donated 84 cases of water and were present during the press conference. Sams Club donated 72 cases that morning.

The district is asking students to avoid school drinking fountains and bring bottled water to school following a lead advisory issued by the city.

Infants and children are being found with elevated levels of lead in their blood since the city switched to using the Flint River as its water source, according to a new study by a Hurley Medical Center doctor.

The data showed that the percentage of infants and children with above-average lead levels has nearly doubled citywide, and has nearly tripled among children in "high risk" areas of lead exposure, according to the study.

The Flint School District issued an advisory Friday, Sept. 25, stating the district is developing an internal action plan to ensure student safety at school.

The district is asking that, effective immediately, families send their children to school with bottled water.

For those parents and families who are unable to send children to school with bottled water, Tawwab is asking for the community to fill in the gaps.

"I'm very excited, but I need for everyone in the community really wrap yourself around your community schools," he said. "We need all of our children to be in school ready to learn and to do that we need them to have excellent drinking water. So hopefully we'll all answer this call."

School officials have contacted the DEQ and will be getting the water from all the schools tested. Food preparation will also use bottled water where necessary until further notice.

Officials are working on turning off the switch to the drinking fountains in the schools and school administrators are being reminded to make sure students are supervised during school hours.

"I'm taking control over the part of the day I have control over. And that is the school day so I'm making sure while the kids are in my possession that they're going to have safe drinking water," Tawwab said.

Tawwab said he's proud that the school officials are doing what needs to be done to keep children safe and healthy, but now he's asking public officials to do the same.

"They are children here. So while the politicians want to sit back and talk about the water, whose responsibility it is, there are children here," Tawwab said. "This weekend, I'll be honest, I thought about my own youngsters in my family. I wouldn't have them drink the water. I wouldn't."

"Think about it. Even if they aren't your own children, there are children here and we must always think about making decisions that are best for our children. ... I want to see the city do what is best for kids. They must have clean drinking water."

<http://michiganradio.org/post/flint-officials-exploring-return-detroit-water#stream/0>

Flint officials exploring return to Detroit water

Steve Carmody / Michigan Radio

City Administrator Natasha Henderson is talking with the different groups needed to make the switch back to the Detroit Water and Sewerage Department.

The city switched from DWSD about a year and a half ago to the Flint River for the city's drinking water. But the switch has been plagued with problems, from foul-smelling water to rising lead levels.

Mayor Dayne Walling says something must be done now.

"We need a comprehensive action plan in place this week," says Walling.

The state will likely be asked to play a critical financial role.

Money is the key obstacle. Walling estimates going babck to DWSD will cost the city of Flint an extra \$1.5 million a month.

It was the rising cost of Detroit water that led state-appointed emergency managers to decide to switch the city of Flint to a new water source.

The emergency manager signed a deal to hook up Flint to the new Karegnondi pipeline. The KWA pipeline will carry water from Lake Huron to Genesee County. But the KWA won't be online until 2016.

The Flint River was intended to bridge the gap between the end of the DWSD contract and the beginning of the KWA contract.

But since the switch was thrown in April 2014, Flint residents have complained about the smell, taste and appearance of the city's tap water.

More problems followed, including E. coli outbreaks and high levels of a potentially cancer-causing chemical.

Recently, multiple reports have revealed rising lead levels in Flint drinking water and in the blood of the city's young children.

<http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/09/26/shortfalls-em-law-writ-large-flint-water-crisis/72811990/>

Snyder must act on Flint lead crisis

By Nancy Kaffer, Detroit Free Press Columnist
11:11 a.m. EDT September 27, 2015

It's hard to understand the resounding yawn that seems to have emanated from the governor's office, following news that an increasing percentage of Flint kids have been lead poisoned after a switch in the city's water supply.

A spokeswoman for the Michigan Department of Health and Human Services sent a Free Press data analyst a chart she claimed would refute a report issued by a Hurley Medical Center researcher, who found that since the city started pumping water from the Flint River last April, the percentage of Flint kids with elevated blood-lead levels has more than doubled in some ZIP codes.

In fact, the state's data supports the Hurley researcher's claim — the number of kids with lead poisoning had been falling in Flint and across the state, until the water switch. Now it's increasing.

A spokeswoman for Gov. Rick Snyder wrote in an e-mail that the Hurley data had been “spliced and diced,” a suggestion that it's something other than accurate — even though the state's own data bolsters the Hurley report.

And officials across the administration have hastened to insist that Flint's water is safe and to suggest that although published reports say Michigan Department of Environmental Quality data show elevated lead levels in Flint's water, there's no reason to suspect that has caused more Flint kids to suffer from lead poisoning. And so far, none of it has spurred them to action.

But here's the situation: There's more lead in Flint's water than there used to be. And more Flint kids have lead in their blood, something that leads to serious, irreversible behavioral and developmental problems.

How it happened

The City of Flint decided in 2013 to join the new Karegnondi Water Authority, along with Genesee, Sanilac and Lapeer counties. That system won't be complete until 2016. In the interim, the city — under former emergency manager Darnell Earley — opted to pump its water from the Flint River, instead of continuing to purchase it from the Detroit Water and Sewerage Department -- in part, state officials say, because DWSD planned to raise its rates for a short-term contract. The city considered blending Lake Huron and Flint River water, but ultimately chose to pull water from the Flint River alone. Genesee County, in contrast, will continue to purchase its water from DWSD while the new system is under construction.

Researchers say that Flint River water, more corrosive than the Lake Huron water pumped by the Detroit Water and Sewerage Department, is leaching lead from the city's aging infrastructure into the water supply.

The city, and its residents, need help. In the near term, residents — especially residents with formula-fed infants, whose diets are composed almost entirely of water — living in poverty need assistance to purchase bottled water or filtration systems. And the city needs to consider its long-term options, in particular, whether to reconnect to DWSD until the Karegnondi system is complete.

That wouldn't be a simple process. Former Flint EM Darnell Earley, now EM for Detroit Public Schools, wrote in an e-mailed statement that he was not involved in the decision to use river water, although it occurred during his tenure. He was also EM when a 9-mile section of pipe was sold to Genesee County, a decision he wrote was in the works before his appointment, meaning the city can't reconnect to the Detroit system without the cooperation of Genesee County.

Nor is the higher cost of buying water from DWSD — about \$1.5 million a month — in the city's budget, Flint Mayor Dayne Walling said. The city, which emerged from state oversight this year, would need the approval of its transitional advisory board to increase its water budget.

Flint, by the way, is broke.

U.S. Rep. Dan Kildee and state Senate Majority Leader Jim Ananich, both Flint Democrats, have pledged to bring financial and practical assistance to the district.

For now, Walling said, Flint's water treatment plant will begin to add anticorrosive agents to the Flint River water, which will take weeks to impact the water supply.

If I lived in Flint, I'd be mad. If I were a Flint parent, with a child who'd spent the last year and a half drinking lead-contaminated water, I'd be in despair.

We're talking about a public health crisis — one that could have been avoided.

Whose fault is it?

During their tenures, emergency managers are the ultimate authority in the cities they serve.

And so the responsibility for Flint's water lies, ultimately, with Snyder, and the emergency managers he appointed — and it is Snyder who must come to Flint's rescue. Walling says Flint's residents need funds for immediate relief, but that the city needs grants to start to upgrade its aging, lead-ridden water infrastructure.

Snyder hasn't hesitated to appoint or retain emergency managers in struggling cities across the state, a stance the Free Press Editorial Board has largely supported, with one caveat: Emergency managers have to make things better.

That is the premise on which the emergency manager law is predicated. Cities are the creation of the state. The state has a responsibility to care for the health and welfare of its residents, and sometimes, cities face challenges not fixable at the local level. In those cases, the state must step in.

That's certainly the case in Flint, which has suffered from the same loss of population — and tax base — as Detroit, but with fewer assets with which to leverage a satisfactory outcome.

In those circumstances, the Free Press editorial board has argued, the state has a responsibility to act, to restore some fiscal stability, and thus service delivery and quality of life for residents.

That's the catch.

It'd be easy to balance any city's budget: Lay off all the cops, sell all the ambulances, liquidate the city parks. But that wouldn't make life better for residents. That's the balance emergency managers must be mindful of — cost savings versus quality of life. Spending cuts versus service delivery. A city's bottom line can't be profit-driven.

That is the glaring weakness in the emergency manager law, and it on full display in Flint.

Snyder spokeswoman Sara Wurfel said the state signed off on the switch at the behest of Walling and the Flint City Council, and only "with serious reservations."

That's not exactly how Walling remembers it.

"I didn't support it one way or the other," he said. "It wasn't my decision. I had a lot of concerns about it that I raised internally, but the budget was in place ... I had a lot of concerns about it, but when it was decided that was the decision ... I didn't protest."

When the Flint City Council voted this year to reconnect to the Detroit water system, then-emergency manager Jerry Ambrose called its decision "incomprehensible": "Water from Detroit is no safer than water from Flint," Ambrose said, as reported in the Flint Journal.

It's pretty clear that's not true. It's not clear what anyone from the State of Michigan is prepared to do about it.

Sixteen months ago, Earley and Walling celebrated the city's departure from DWSD, raising glasses of Flint River water, prepared to toss them back, with a toast that strikes a hollow note today: Here's to Flint.

<http://www.detroitnews.com/story/news/2015/09/28/snyder-urged-help-flint-reconnect-detroit-water/72999390/>

Snyder urged to help Flint reconnect to Detroit water

Chad Livengood, Detroit News Lansing Bureau 7:21 a.m. EDT September 29, 2015

Lansing — Senate Minority Leader Jim Ananich urged Gov. Rick Snyder on Monday to help Flint switch back to Detroit's water system after medical researchers found elevated levels of lead in children who consumed water from the Flint River over the past year.

Ananich, a Democrat who represents Flint, said the city of 99,000 residents faces a “public health crisis” after pediatricians at Hurley Medical Center discovered higher levels of lead in the blood of Flint children tested since the city stopped buying drinking water from Detroit 18 months ago.

“I’m going to keep pushing for swift transfer back to Detroit,” Ananich told The Detroit News. “I think that seems like the most logical decision to make at this point in time.”

Flint residents have been complaining about the odor, taste and smell of the city’s water since Flint stopped buying bulk water from Detroit’s water department in April 2014 and started pumping drinking water from the Flint River. The river is serving as a temporary water source until a new regional pipeline from Lake Huron goes online in late 2016.

Ananich participated in a conference call with Snyder and members of his administration on Monday morning.

“I’ve been stressing an urgency, that this is a public health crisis and we need to get in front of it,” Ananich said.

Ananich also sought emergency funding to supply Flint residents with bottled water and to purchase thousands of water filters for household faucets to help filter out lead from the city’s aging lead-lined pipes that service some 15,000 customers.

Snyder spokeswoman Sara Wurfel said the governor’s office is “reviewing” Ananich’s ideas.

“We believe protecting public health is paramount and safe, clean, accessible drinking water is essential,” Wurfel said. “That’s what we are focused on helping ensure and deeply share the senator’s commitment to helping address the issue.”

Flint officials have said they stopped buying Detroit’s water after the Detroit Water and Sewerage Department sought to hike the city’s monthly water bill by \$1.5 million until Flint switched over to the new Karegnondi Pipeline Authority next year.

Last week, Genesee County pediatricians released a study of blood levels of Flint children younger than 5 between January 2013 and September 2013 when Flint used Detroit’s water and January and September of this year when residents drank Flint River water.

The study found blood levels of lead in Flint children nearly doubled and in two Flint ZIP codes, the lead levels tripled. Federal officials have previously cited Flint for having high levels of a disinfectant by-product.

In a letter to Snyder Monday, Ananich said the city needs the state’s assistance in negotiating a short-term water purchasing contract with the Detroit Water and Sewerage Department until a new pipeline project can be complete.

Earlier this year, Flint leaders rebuffed an offer by Detroit officials to reconnect Flint for \$12 million more annually, The Detroit News reported in February.

“Your administration has the ability to ensure a financially acceptable and responsible contract between Flint and the Detroit Water and Sewerage Department, particularly in light of the public health implications with the Flint River supply,” Ananich wrote to Snyder.

The governor's office did not comment on Ananich's desire to have Flint switch back to Detroit's water supply.

But Wurfel noted the state has provided \$4.2 million in grants and loans to help Flint add a carbon filtration system and test its water.

"We understand that residents are frustrated," Wurfel said in an email.

<http://michiganradio.org/post/study-suggests-flints-water-causing-increased-lead-poisoning#stream/0>

Study suggests Flint's water causing increased lead poisoning

Michigan Radio Stateside Staff • 16 hours ago

Last year, Flint ended five decades of service from the Detroit Water and Sewerage Department. The city's going to take its water from a new pipeline from Lake Huron, but that won't be ready until some time next year.

In the meantime, Flint decided that rather than continuing to pay for Detroit water, it would get its drinking water from the Flint River.

Almost immediately after making that change, residents began complaining about the way their drinking water looked, smelled and tasted. There were issues with the chemicals used to treat the river water.

And now a study performed by pediatrician Dr. Mona Hanna-Attisha of the Hurley Medical Center has found an increase in the number of Flint children who have been lead poisoned since the switch to the Flint River water.

Hanna-Attisha says she looked at the blood lead levels of Flint residents from before and after the switch, and noticed that the percentage of children with elevated blood lead levels just about doubled.

“Pre-switch percent of children with elevated blood (lead) levels was 2.1%, and then after the switch it was 4%,” she says.

She adds that the data for children in the rest of Genessee County, which is sticking with Detroit water until the new pipeline is ready, showed no statistical change in blood lead levels.

Even more troubling, Hanna-Attisha says that state and national data showed blood lead levels in children dropping consistently year over year before the switch due to, “great public health efforts and education efforts and lead abatement efforts.”

“Whenever you see that percentage staying the same or that percentage increasing, that is a red flag,” she says.

There has been some concern surrounding Flint’s infrastructure and how it affects the quality of the water, but Hanna-Attisha says that’s not the key factor here.

“Infrastructure has a role, but this infrastructure hasn’t changed. It was old then, it is old now, but these levels have increased. So what’s changed is... the water,” she says.

She explains that the Flint River water is more corrosive than the water from Lake Huron, so it is aging Flint's existing water infrastructure and causing the leaching of lead from these pipes.

According to Hanna-Attisha, "mountains and mountains of research" show that lead poisoning is linked with decreased IQ, behavioral issues, ADHD-like symptoms, and higher rates of violent offenses and incarcerations.

"It's just one of the absolute worst things that you could do for the life course of a child," Hanna-Attisha says.

The State Department of Health and Human Services, the Department of Environmental Quality and the Governor's office have downplayed and in some cases attempted to discredit Hanna-Attisha's findings, but she isn't swayed.

"I think it's fascinating, because if you look at their data, it pretty much shows the exact same thing. Every year there was a decrease in the total percentage of kids with elevated blood lead levels, and then the year after the switch it jumped up," she says. "You can't fight the numbers, the numbers are there, everything is consistent."

Hanna-Attisha advises that children, formula-fed infants and pregnant mothers in the area avoid tap water.

As for everyone else, she suggests running the water for five or so minutes before using it and only using cold water for cooking.

Here's a quick explainer for those trying to get a better understanding of the complicated water issues in Flint.

-Ryan Grimes, Stateside

<http://michiganradio.org/post/anger-over-flints-water-woes-reaching-boiling-point#stream/0>

Anger over Flint's water woes is reaching a boiling point

Steve Carmody, Michigan Radio • 17 hours ago

Dozens of people chanted "Fresh, Clean Water" as they jammed the lobby of Flint city hall Monday.

The anger over the city's long-simmering water problems is reaching a boiling point.

People have been complaining since April of last year, when the city switched from Detroit water to the Flint River as the city's source of drinking water.

Concerns about the water's taste and smell have been replaced by fears of rising lead levels in Flint's drinking water. Virginia Tech researchers blame the "corrosiveness" of the Flint River for the elevated lead levels. Other research shows children's blood lead levels in Flint have doubled since the switch.

A coalition of groups say the time has passed for further testing.

Pastor Allen Overton is calling on Gov. Snyder and Flint's elected leaders to immediately return to getting the city's drinking water from Detroit.

“If we do not get any response from either of them, we will begin to protest in this city like they have never seen before,” says Overton.

Flint pastors plan to meet with their attorney tomorrow to review their options.

Meanwhile, Gov. Snyder says his office is talking with Flint leaders and collecting facts. The governor declined to say what action might be taken next.

<http://michiganradio.org/post/bottled-water-donations-flowing-flint-schools#stream/0>

Bottled water donations flowing into Flint schools

Steve Carmody, Michigan Radio • 18 hours ago

It took five Home Depot employees a couple trips to unload a pickup truck filled with dozens of cases of bottled water into a classroom at a Flint elementary school this afternoon.

The donation was the largest, but far from the only, bottled water donation to Flint schools today.

School Superintendent Bilal Tawwab asked for donations after reports that

Flint's drinking water contains "serious" lead levels. Last week, local hospital officials announced their tests showed blood lead levels in children in Flint had nearly doubled since the switch.

The timeline corresponds with the city's switch from the Detroit Water and Sewerage Department to the Flint River as the source of its drinking water.

Children are especially at risk when exposed to high lead levels.

Tawwab is grateful for the response his request has received so far. But he adds the more than 5,000 students in the Flint Community Schools will need more.

"We need a lot more donations like this," Tawwab said as he stood in front of the 80-plus cases donated by two local Home Depots. "We just want to be able to meet the demand ... so we're just going to take as much as you guys will give."

Tawwab says he's asked the Michigan Department of Environmental Quality to come in and test the water in Flint school buildings.

He also asked state and local officials to come up with a solution to Flint's water woes.

Researchers from Virginia Tech blame the highly "corrosive" nature of the Flint River. They claim the river water is breaking down lead pipes and lead solder used in water pipes, creating lead levels in some homes at above 15 parts per billion.

Flint Mayor Dayne Walling has asked the state for \$30 million to address the problem. \$10 million would be for replacing lead pipes.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

To: Darman, Leslie[Darman.Leslie@epa.gov]
From: Wehling, Carrie
Sent: Tue 9/29/2015 6:28:55 PM
Subject: RE: FYI from HQ: Flint happenings

Should this be on the agenda for the weekly?

Caroline (Carrie) Wehling

Assistant General Counsel

Water Law Office

U.S. Environmental Protection Agency

Washington DC 20004

202-564-5492

wehling.carrie@epa.gov

From: Darman, Leslie
Sent: Tuesday, September 29, 2015 1:20 PM
To: Wehling, Carrie
Subject: FW: FYI from HQ: Flint happenings

FYI – looks like there may be progress on the situation in Flint.

Leslie Darman

Office of General Counsel

Water Law Office

202-564-5452

From: Shoven, Heather
Sent: Tuesday, September 29, 2015 12:59 PM
To: Bair, Rita; Deltoral, Miguel; Damato, Nicholas; Poy, Thomas; Porter, Andrea; Glowacki, Joanna; Darman, Leslie; Crooks, Jennifer
Subject: FYI from HQ: Flint happenings

From: King, Carol
Sent: Tuesday, September 29, 2015 11:53 AM
To: Shoven, Heather
Subject: FW: Flint happenings

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

Thanks Arnita. I had not seen this. Please let me know if you need any assistance from us.

Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

FYI! Sorry if you already have this but just making sure.

Thank you!

Sent from my iPhone

Begin forwarded message:

From: "Rupp, Mark" <Rupp.Mark@epa.gov>
Date: September 29, 2015 at 12:33:36 PM EDT

To: "Hannon, Arnita" <Hannon.Arnita@epa.gov>, "Barbery, Andrea" <Barbery.Andrea@epa.gov>, "Cook-Shyovitz, Becky" <Cook-Shyovitz.Becky@epa.gov>, "Bowles, Jack" <Bowles.Jack@epa.gov>
Subject: Flint happenings

The State and City are pulling together a "ten point plan" and they have asked for EPA's help to work out the details. The goal is to have a press conference on Thursday or Friday to announce the following:

1. Bottled water and pre-mixed formula for households with infants and children (the Michigan Department of Health and Human Services is working with USDA to do this through the WIC program)
2. Lead filters for households with infants and children (a group of nonprofits has pledged \$1 million for this purpose and will be working with the Meijer discount chain to obtain filters at wholesale.)
3. Water will be tested for lead in all Flint schools. (MDEQ)
4. Water will be tested for lead in all Flint households with lead service lines that have infants and children. (MDEQ)
5. All other Flint households can request a free water test. (MDEQ)
6. The State will step up health advisory/public education efforts to encourage flushing and use of filters (MDEQ/MDHHS)
7. MDEQ will establish an end date for Flint to complete implementation of fully-optimized corrosion control – and move up the start date to commence implementation of corrosion control. (The current start date is 1/16)

8. MDEQ will expand the City's Technical Advisory Committee by adding several University of Michigan scientists and will immediately convene the committee. (This committee includes ORD scientists from the Cincinnati Lab)

9. The State of Michigan's "Chief Medical Executive" will oversee a review of data that has been collected on Flint children's blood lead levels.

10. MDEQ will help Flint finance accelerated replacement of lead service lines (using SRF)

The Mayor and Director Wyant have asked Susan to go to Flint to participate in the press conference. The Mayor has also asked Susan to meet with a group of faith leaders who have been very vocal on this issue: <http://www.abc12.com/home/headlines/Rally-held--329788391.html>

To: Henry, Timothy[henry.timothy@epa.gov]; Poy, Thomas[poy.thomas@epa.gov]
From: Braverman, Carole
Sent: Tue 9/29/2015 6:40:18 PM
Subject: FW: Help with the All Ages Lead Model?
[Flint BLs.pdf](#)

From: Samanic, Claudine
Sent: Tuesday, September 29, 2015 12:51 PM
To: Braverman, Carole
Cc: Johnson, Mark
Subject: Help with the All Ages Lead Model?

Hi Carole,

We are writing to ask for some help with something. I'm not sure if you are keeping up with what's been happening in Flint, MI with the increasing water lead levels due to a switch in water source for the town? Our Michigan State Health Dept partners are going through a bit of a snag because the Lead Program folks initially ran a comparison of pre- and post- water source switch blood lead levels in children ages 0-16 and reported no significant increase in the proportion of elevated BLs. However, folks at the Hurley Medical Center (where many blood leads are analyzed) ran their own comparisons restricting to high water lead zip codes in Flint, and looking first at children 0-5, then at babies < 15 months and found a significant doubling of the % >5 ug/L (attached is a scanned page of some of their results – excuse my scribble – I ran my own test of proportions to verify the p-value). The water lead levels are about 11 now – not yet at 15 but perhaps rising. The issue has become quite political and it seems USEPA will be pulled in somehow.

We'd like to provide our State Health partners with some support. Mark wanted to plug in some of the site-specific parameters into the IEUBK model, and do the same with the new All Ages Lead Model (since the whole population of Flint is affected by this). We've inquired about obtaining a copy of the that program, but it seems you also need a program called ACSL to run the AALM, and we do not have an ACSL license (please see below). EPA has a corporate license, and the AAML is currently being beta tested. Is there any possibility that one of the R5 EPA risk assessors is already beta testing this program, or would be willing to load it so we could use it in support of the lead issue in Flint?

Thank you,

Claudine

P.S. Thanks again for correcting my last name on the Epi talk announcement!

Claudine Samanic, MSPH, PhD

Commander, USPHS Commissioned Corps

ATSDR Region 5

77 W Jackson Blvd

Chicago, IL 60604

(312) 353-4766

csamanic@cdc.gov

From: McLanahan, Eva (ATSDR/DCHI/OD) [<mailto:yjp8@cdc.gov>]

Sent: Tuesday, September 29, 2015 10:31 AM

To: Johnson, Mark

Cc: Samanic, Claudine

Subject: RE: Access to All Ages Model

Hi Mark,

Glad you talked with Jim – he's a great guy. I like him very much!

In order to run the AALM you do need acsl. (www.acslx.com). The trouble here will be cost. It cost several hundred dollars per license; however, at EPA we had a corporate license so we could install on as many computers as we wanted, but only a certain few would have tech support. If AALM becomes the mainstream at ATSDR, we'd definitely be better off going that way.

Is there something you were thinking of doing with the AALM that I could help you with? Are you interested in joining our AALM validation team, etc.?

V/r,

Eva

To: Bethel, Heidi[Bethel.Heidi@epa.gov]
From: Greene, Ashley
Sent: Tue 9/29/2015 6:43:50 PM
Subject: FW: Flint happenings

10 point plan.

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

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To: Samanic, Claudine[Samanic.Claudine@epa.gov]
Cc: Johnson, Mark[johnson.mark@epa.gov]; Poy, Thomas[poy.thomas@epa.gov]; Henry, Timothy[henry.timothy@epa.gov]
From: Braverman, Carole
Sent: Tue 9/29/2015 6:46:54 PM
Subject: RE: Help with the All Ages Lead Model?

I will get on this and I shared your message with WD. R5 and the City of Flint have requested ORD help in optimizing the water system. Perhaps we should all talk? I'm running a webinar starting in 15 minutes so more later.

From: Samanic, Claudine
Sent: Tuesday, September 29, 2015 12:51 PM
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Cc: Johnson, Mark
Subject: Help with the All Ages Lead Model?

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V/r,

Eva

To: Poy, Thomas[poy.thomas@epa.gov]; Kelley, Jeff[kelley.jeff@epa.gov]
Cc: Hyde, Tinka[hyde.tinka@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]
From: Arcaute, Francisco
Sent: Tue 9/29/2015 6:48:28 PM
Subject: RE: Flint water interim report - media request

Reporter Lindsey Smith just called – has anyone answered her follow up question?

Thanks

F

From: Poy, Thomas
Sent: Tuesday, September 29, 2015 11:45 AM
To: Kelley, Jeff
Cc: Hyde, Tinka; Cassell, Peter; Arcaute, Francisco
Subject: RE: Flint water interim report - media request

Jeff: Corrosion control is required of large water systems.

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 9:12 AM
To: Poy, Thomas
Cc: Hyde, Tinka; Cassell, Peter; Arcaute, Francisco
Subject: FW: Flint water interim report - media request

Tom, a follow-up question from Michigan Radio...

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Lindsey Smith [<mailto:lmismi@umich.edu>]
Sent: Tuesday, September 29, 2015 9:03 AM
To: Kelley, Jeff
Cc: Arcaute, Francisco; Rowan, Anne; Sarah Hulett; Cassell, Peter
Subject: Re: Flint water interim report - media request

Thanks Jeff,

I guess my only follow up is - is it fair to assume corrosion control is, in fact, required of large water systems? I did a lot of reading yesterday and from what I can tell, it is. It would be very helpful if one of you can clarify.

Best~

On Mon, Sep 28, 2015 at 5:11 PM, Kelley, Jeff <kelley.jeff@epa.gov> wrote:

Lindsey,

EPA is working to finalize the field report. In the meantime, EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used

for six hours or longer, “flush” the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking water is available at: <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: [312-353-1159](tel:312-353-1159)

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Monday, September 28, 2015 2:18 PM
To: Arcaute, Francisco
Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
Subject: Re: Flint water interim report - media request

Any luck? I colleague is filing for the national network very shortly and we're trying to understand if corrosion control **is** required, as that memo says it is. Best~

On Mon, Sep 28, 2015 at 10:06 AM, Arcaute, Francisco <Arcaute.Francisco@epa.gov> wrote:

Chasing down...

Thanks

F

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

Hi Anne,

Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

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Office (616) 551-0717
michiganradio.org

To: Kelley, Jeff[kelley.jeff@epa.gov]
From: Harrison, Melissa
Sent: Tue 9/29/2015 7:49:32 PM
Subject: RE: Flint statement

Thanks again for your help. Keep me in the loop as things transpire. Specifically if there are new developments around human health/safety. Melissa

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 2:14 PM
To: Harrison, Melissa
Subject: Flint statement

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Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5

ph: 312-353-1159

To: Arcaute, Francisco[Arcaute.Francisco@epa.gov]; Poy, Thomas[poy.thomas@epa.gov]
Cc: Hyde, Tinka[hyde.tinka@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]
From: Kelley, Jeff
Sent: Tue 9/29/2015 6:49:11 PM
Subject: RE: Flint water interim report - media request

I have an answer from Tom, but want to have a follow up discussion with him before we respond.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

On Tue, Sep 29, 2015 at 11:48 AM -0700, "Arcaute, Francisco" <Arcaute.Francisco@epa.gov> wrote:

Reporter Lindsey Smith just called – has anyone answered her follow up question?

Thanks

F

From: Poy, Thomas
Sent: Tuesday, September 29, 2015 11:45 AM
To: Kelley, Jeff
Cc: Hyde, Tinka; Cassell, Peter; Arcaute, Francisco
Subject: RE: Flint water interim report - media request

Jeff: Corrosion control is required of large water systems.

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 9:12 AM
To: Poy, Thomas
Cc: Hyde, Tinka; Cassell, Peter; Arcaute, Francisco
Subject: FW: Flint water interim report - media request

Tom, a follow-up question from Michigan Radio...

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Lindsey Smith [<mailto:lmismi@umich.edu>]
Sent: Tuesday, September 29, 2015 9:03 AM
To: Kelley, Jeff
Cc: Arcaute, Francisco; Rowan, Anne; Sarah Hulett; Cassell, Peter
Subject: Re: Flint water interim report - media request

Thanks Jeff,

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Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: [312-353-1159](tel:312-353-1159)

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Monday, September 28, 2015 2:18 PM
To: Arcaute, Francisco
Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett
Subject: Re: Flint water interim report - media request

Any luck? I colleague is filing for the national network very shortly and we're trying to understand if corrosion control **is** required, as that memo says it is. Best~

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F

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Friday, September 25, 2015 11:57 AM
To: Rowan, Anne
Cc: Arcaute, Francisco
Subject: Flint water interim report - media request

Hi Anne,

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To: Harrison, Melissa[Harrison.Melissa@epa.gov]
From: Kelley, Jeff
Sent: Tue 9/29/2015 7:50:27 PM
Subject: RE: Flint statement

Yes, will do. I can add you to my daily clip distribution, too, if you'd like.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Harrison, Melissa
Sent: Tuesday, September 29, 2015 2:50 PM
To: Kelley, Jeff
Subject: RE: Flint statement

Thanks again for your help. Keep me in the loop as things transpire. Specifically if there are new developments around human health/safety. Melissa

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 2:14 PM
To: Harrison, Melissa
Subject: Flint statement

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Jeff Kelley

Director, Office of External Communications

U.S. EPA Region 5

ph: 312-353-1159

To: Henry, Timothy[henry.timothy@epa.gov]; Poy, Thomas[poy.thomas@epa.gov]
From: Hyde, Tinka
Sent: Tue 9/29/2015 5:56:47 PM
Subject: FW: Flint happenings

FYI – Please don't distribute further --

From: Pollins, Mark
Sent: Tuesday, September 29, 2015 12:21 PM
To: Hyde, Tinka
Subject: Fwd: Flint happenings

Sent from my iPhone

Begin forwarded message:

From: "King, Carol" <King.Carol@epa.gov>
Date: September 29, 2015 at 12:52:58 PM EDT
To: "Denton, Loren" <Denton.Loren@epa.gov>, "Theis, Joseph" <Theis.Joseph@epa.gov>, "Pollins, Mark" <Pollins.Mark@epa.gov>
Subject: FW: Flint happenings

Below is a message Peter Grevatt just forwarded from Mark Rupp and Arnita Hannon. Among other things, it mentions plan for bottled water and filters.

Can we please touch base in light of this morning's meeting and latest below?

Thanks,
Carol

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

Thanks Arnita. I had not seen this. Please let me know if you need any assistance from us.

Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

FYI! Sorry if you already have this but just making sure.

Thank you!

Sent from my iPhone

Begin forwarded message:

From: "Rupp, Mark" <Rupp.Mark@epa.gov>
Date: September 29, 2015 at 12:33:36 PM EDT
To: "Hannon, Arnita" <Hannon.Arnita@epa.gov>, "Barbery, Andrea" <Barbery.Andrea@epa.gov>, "Cook-Shyovitz, Becky" <Cook-Shyovitz.Becky@epa.gov>, "Bowles, Jack" <Bowles.Jack@epa.gov>
Subject: Flint happenings

The State and City are pulling together a "ten point plan" and they have asked for EPA's help to work out the details. The goal is to have a press conference on Thursday or Friday to announce the following:

1. Bottled water and pre-mixed formula for households with infants and children (the Michigan Department of Health and Human Services is working with USDA to do this through the WIC program)
2. Lead filters for households with infants and children (a group of nonprofits has pledged \$1 million for this purpose and will be working with the Meijer discount chain to obtain filters at wholesale.)
3. Water will be tested for lead in all Flint schools. (MDEQ)

4. Water will be tested for lead in all Flint households with lead service lines that have infants and children. (MDEQ)
5. All other Flint households can request a free water test. (MDEQ)
6. The State will step up health advisory/public education efforts to encourage flushing and use of filters (MDEQ/MDHHS)
7. MDEQ will establish an end date for Flint to complete implementation of fully-optimized corrosion control – and move up the start date to commence implementation of corrosion control. (The current start date is 1/16)
8. MDEQ will expand the City's Technical Advisory Committee by adding several University of Michigan scientists and will immediately convene the committee. (This committee includes ORD scientists from the Cincinnati Lab)
9. The State of Michigan's "Chief Medical Executive" will oversee a review of data that has been collected on Flint children's blood lead levels.
10. MDEQ will help Flint finance accelerated replacement of lead service lines (using SRF)

The Mayor and Director Wyant have asked Susan to go to Flint to participate in the press conference. The Mayor has also asked Susan to meet with a group of faith leaders who have been very vocal on this issue: <http://www.abc12.com/home/headlines/Rally-held--329788391.html>

To: Braverman, Carole[braverman.carole@epa.gov]
Cc: Johnson, Mark[johnson.mark@epa.gov]; Poy, Thomas[poy.thomas@epa.gov]; Henry, Timothy[henry.timothy@epa.gov]
From: Samanic, Claudine
Sent: Tue 9/29/2015 6:56:57 PM
Subject: RE: Help with the All Ages Lead Model?

That would be great. I have to leave by 3:45 today and telework tomorrow but could call in. Otherwise I'm open all day Thurs except from 10-11, and all day Fri.

Claudine Samanic, MSPH, PhD
Commander, USPHS Commissioned Corps
ATSDR Region 5
77 W Jackson Blvd
Chicago, IL 60604
(312) 353-4766
csamanic@cdc.gov

From: Braverman, Carole
Sent: Tuesday, September 29, 2015 1:47 PM
To: Samanic, Claudine
Cc: Johnson, Mark; Poy, Thomas; Henry, Timothy
Subject: RE: Help with the All Ages Lead Model?

I will get on this and I shared your message with WD. R5 and the City of Flint have requested ORD help in optimizing the water system. Perhaps we should all talk? I'm running a webinar starting in 15 minutes so more later.

From: Samanic, Claudine
Sent: Tuesday, September 29, 2015 12:51 PM

To: Braverman, Carole
Cc: Johnson, Mark
Subject: Help with the All Ages Lead Model?

Hi Carole,

We are writing to ask for some help with something. I'm not sure if you are keeping up with what's been happening in Flint, MI with the increasing water lead levels due to a switch in water source for the town? Our Michigan State Health Dept partners are going through a bit of a snag because the Lead Program folks initially ran a comparison of pre- and post- water source switch blood lead levels in children ages 0-16 and reported no significant increase in the proportion of elevated BLs. However, folks at the Hurley Medical Center (where many blood leads are analyzed) ran their own comparisons restricting to high water lead zip codes in Flint, and looking first at children 0-5, then at babies < 15 months and found a significant doubling of the % >5 ug/L (attached is a scanned page of some of their results – excuse my scribble – I ran my own test of proportions to verify the p-value). The water lead levels are about 11 now – not yet at 15 but perhaps rising. The issue has become quite political and it seems USEPA will be pulled in somehow.

We'd like to provide our State Health partners with some support. Mark wanted to plug in some of the site-specific parameters into the IEUBK model, and do the same with the new All Ages Lead Model (since the whole population of Flint is affected by this). We've inquired about obtaining a copy of the that program, but it seems you also need a program called ACSL to run the AALM, and we do not have an ACSL license (please see below). EPA has a corporate license, and the AAML is currently being beta tested. Is there any possibility that one of the R5 EPA risk assessors is already beta testing this program, or would be willing to load it so we could use it in support of the lead issue in Flint?

Thank you,

Claudine

P.S. Thanks again for correcting my last name on the Epi talk announcement!

Claudine Samanic, MSPH, PhD

Commander, USPHS Commissioned Corps

ATSDR Region 5

77 W Jackson Blvd

Chicago, IL 60604

(312) 353-4766

csamanic@cdc.gov

From: McLanahan, Eva (ATSDR/DCHI/OD) [<mailto:yjp8@cdc.gov>]

Sent: Tuesday, September 29, 2015 10:31 AM

To: Johnson, Mark

Cc: Samanic, Claudine

Subject: RE: Access to All Ages Model

Hi Mark,

Glad you talked with Jim – he's a great guy. I like him very much!

In order to run the AALM you do need acsl. (www.acslx.com). The trouble here will be cost. It cost several hundred dollars per license; however, at EPA we had a corporate license so we could install on as many computers as we wanted, but only a certain few would have tech support. If AALM becomes the mainstream at ATSDR, we'd definitely be better off going that way.

Is there something you were thinking of doing with the AALM that I could help you with? Are you interested in joining our AALM validation team, etc.?

V/r,

Eva

To: Kelley, Jeff[kelley.jeff@epa.gov]
From: Harrison, Melissa
Sent: Tue 9/29/2015 7:58:46 PM
Subject: RE: Flint statement

Great!

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 3:50 PM
To: Harrison, Melissa
Subject: RE: Flint statement

Yes, will do. I can add you to my daily clip distribution, too, if you'd like.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Harrison, Melissa
Sent: Tuesday, September 29, 2015 2:50 PM
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Subject: RE: Flint statement

Thanks again for your help. Keep me in the loop as things transpire. Specifically if there are new developments around human health/safety. Melissa

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Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

To: Melissa Harrison (Harrison.Melissa@epa.gov)[Harrison.Melissa@epa.gov]
From: Kelley, Jeff
Sent: Tue 9/29/2015 7:59:59 PM
Subject: FW: Flint drinking water clips

Here's the batch of clips I from this morning...

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 9:09 AM
To: Susan Hedman; Robert Kaplan (kaplan.robert@epa.gov); Hyde, Tinka
Cc: Poy, Thomas; Henry, Timothy; Cassell, Peter; Rowan, Anne (rowan.anne@epa.gov); Eileen Deamer; Fortin, Denise; Ronna Beckmann; Arcaute, Francisco (Arcaute.Francisco@epa.gov)
Subject: Flint drinking water clips

Lots of clips this morning ...

- Clean water activists demand Detroit reconnection in Flint after lead study, Flint Journal
- City administrator asks Detroit about reconnecting Flint to Lake Huron, Flint Journal
- Flint schools chief seeking water donations for students after lead warning, Flint Journal
- Flint officials exploring return to Detroit water, Michigan Radio
- Snyder must act on Flint lead crisis, Detroit Free Press
- Snyder urged to help Flint reconnect to Detroit water, Detroit News
- Study suggests Flint's water causing increased lead poisoning, Michigan Radio

- Anger over Flint's water woes is reaching a boiling point, Michigan Radio
 - Bottled water donations flowing into Flint schools, Michigan Radio
-

http://www.mlive.com/news/flint/index.ssf/2015/09/coalition_for_clean_water_dema.html

Clean water activists demand Detroit reconnection in Flint after lead study

By Molly Young | myoung7@mlive.com

The Flint Journal on September 28, 2015 at 2:54 PM, updated September 29, 2015 at 9:04 AM

FLINT, MI -- The Coalition for Clean Water is demanding Flint's administration switch back to purchasing water from Detroit after recent studies showed a spike in lead levels in drinking water and in children since the switch to Flint River water more than a year ago.

Dozens of people attended the conference, which was held in the lobby of Flint City Hall Monday morning, Sept. 28. After Pastor Alfred Harris Sr. gave opening remarks, Pastor Allen C. Overton, chair of the grassroots coalition, said during the conference that the recent studies have proven Flint water is unsafe, and that residents must continue pushing city officials for change.

"We have found all the facts, we have found all the information – it's time for the citizens of Flint to demand fresh, clean water from this administration. And they need to understand we are not going away and we want the water source changed immediately," Overton said during the conference.

At one point during the conference, attendees began chanting over Overton: "Fresh, clean water."

Harris said the coalition has met with Mayor Dayne Walling and has reached out to Governor Rick Snyder asking for a sit-down to discuss possible solutions.

Walling said during a press conference Friday, Sept. 25, that he believes the city's use of the river has resulted in an increased risk of lead leaching into drinking water because of the river water's corrosiveness and said he would consider support for reconnecting Flint to the Detroit water system again.

Overton said during the conference that the city has "skewed test procedures and otherwise misrepresented data to the MDEQ."

Walling denied those claims in an email to The Flint Journal on Monday afternoon.

"The City of Flint has followed the guidance from the Michigan Department of Environmental Quality and the U.S. Environmental Protection Agency. Claims to the contrary are false because the City is actually going above and beyond the required standards to ensure the community's health and safety," Walling said.

Walling, speaking at a news conference to issue a lead advisory for the city last week, said he's willing to discuss buying Detroit-treated Lake Huron water again, but he said that decision rests with Gov. Rick Snyder.

His comments came the day after a Hurley Medical Center doctor released a study showing increasing incidents of elevated blood lead levels in Flint children.

In his statement on Monday, Walling said the administration is looking for ways to address health risks in the system.

"I was troubled by the doctors' data on elevated blood levels and I am calling for the collective resources of the federal and state governments and local partners to address all of the immediate concerns and long-term risks with lead in our old system," Walling said. "Every option is on the table to fix Flint's water."

Flint's long-term drinking water plan is still to eventually draw water from a new pipeline to Lake Huron that's being built by the city and Genesee County through the Karegnondi Water Authority.

But the pipeline isn't expected to be completed until some time in 2016 and Flint has struggled with water quality and treatment since switching to the Flint River in the interim.

Overton said the coalition has since asked for a sit-down with city and state officials, but have not yet received a response. He said the coalition is weighing its options, including mass protests, in case there is no response or change announced soon.

"If we do not get a response from either of them we will begin to protest in this city like they have never seen before," Overton said.

Overton and Harris did not say when such an action would be taken, or exactly what it would entail, but insisted they will not back down.

Harris said that in the past, Flint has contributed in a major way to the state's financial stability, and now it's time for the state to repay the city by helping them find a source of clean water.

"Flint deserves the purist water source. Let the state pay for it. Let the federal government pay for it. Let the United Nations pay for it," Harris said.

http://www.mlive.com/news/flint/index.ssf/2015/09/city_administrator_asks_detroi.html

City administrator asks Detroit about reconnecting Flint to Lake Huron

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 28, 2015 at 7:45 PM, updated September 28, 2015 at 8:13 PM

FLINT, MI -- A key official inside City Hall says she's trying to broker a deal to reconnect Flint to the Detroit water system.

City Administrator Natasha Henderson said she's approached the Detroit Water and Sewerage Department about the potential reconnection because of recent concerns about lead levels in treated Flint River water.

Henderson told the City Council today, Sept. 28, that she's attempted to contact representatives of DWSD and the Great Lakes Water Authority, the consortium that will take over day-to-day operation of the Detroit system next year.

The move is significant because Henderson has broad powers in running the city and is the primary contact between the state-appointed Receivership Transition Advisory Board and the rest of city government.

"There is a better chance we would not have as much of a lead problem" if the city stopped using the Flint River, Henderson said. "It is more corrosive (than Detroit-treated Lake Huron water).

The Flint River water "can cause more problems," she said.

Henderson's statements today represent a shift in her approach to the issue of Flint drinking water.

Appointed to her position by former emergency manager Darnell Earley, Henderson has never previously publicly promoted reconnecting Flint to the Detroit water system.

Along with former emergency managers, Henderson has said previously that Flint could not afford to switch back to DWSD water and said today Flint still won't be able to pay for Detroit water without help or lower rates than have been proposed previously.

"I would like the state to help us get back to DWSD if that's possible," the city administrator said. "I would like for the state to help us do that."

Henderson's move comes just days after Mayor Dayne Walling opened the door to returning to the Detroit water system as work continues on the Karegnondi Water Authority pipeline.

Walling had been an advocate of using the Flint River as the city's source of drinking water since it switched from the Detroit water system in April 2014.

But the mayor shifted his approach to the issue last week after a report by Dr. Mona Hanna-Attisha, director of Hurley Medical Center's pediatric residency program, showed a near doubling of the percentage of children living in Flint with elevated blood lead levels since the switch to river water.

The Hurley study followed testing by Virginia Tech, which showed 10 percent of Flint homes tested by the university had 25 parts per billion of lead or more, far more than the allowable level -- 15 ppb -- set in federal guidelines.

City and state officials have said their testing shows Flint's water supply meets all health and safety regulations, never rising above 11 ppb in more than 10 percent of homes during the last 16 months, but data from the state shows lead levels have spiked since the city began using the river as its water source.

Henderson said a return to Detroit water wouldn't eliminate lead but could cut the amount of lead in tap water because treated river water is more corrosive than lake water.

State Sen. Jim Ananich, D-Flint, also today called on the state to assist the city in reconnecting to the Detroit water system until the completion of the KWA pipeline.

Dave Murray, a spokesman for Snyder, said in a statement today that the governor "and state agencies continue to work with city leaders, looking at a variety of approaches to the problem."

Several city residents continued to speak out about Flint's water during a City Council meeting today and some said Henderson and others should have acted long ago to end the use of river water.

"The city of Flint has eroded the public trust," said Nayyirah Shariff, a representative of the Democracy Defense League, one of the citizen groups fighting against use of the Flint River. "Our children and infants cannot be lost in the shuffle."

http://www.mlive.com/news/flint/index.ssf/2015/09/flint_superintendent_looking_t.html

Flint schools chief seeking water donations for students after lead warning

By Sarah Schuch | sschuch@mlive.com The Flint Journal on September 28, 2015 at 4:05 PM, updated September 28, 2015 at 7:13 PM

FLINT, MI – The Flint School District is seeking donations for bottled water for students following last week's decision to stop using tap water at the schools, the superintendent said.

Donations and support have already started pouring in, but it's not enough, Flint Superintendent Bilal Tawwab said Monday, Sept. 28.

He urged the community to help at a news conference at Pierce Elementary.

"We need your help. On Friday, we all read the advisory as it relates to the water challenges here in Flint," Tawwab said during a press conference. "And I must say, as their champion, I'm going to stand for children and I unfortunately had to make the decision that at this time it would be best that our children no longer drink the water in our Flint Community Schools until further notice."

Two large water donations came to the Flint School District on Monday. Home Depot – the Burton and Pierson Road locations – donated 84 cases of water and were present during the press conference. Sams Club donated 72 cases that morning.

The district is asking students to avoid school drinking fountains and bring bottled water to school following a lead advisory issued by the city.

Infants and children are being found with elevated levels of lead in their blood since the city switched to using the Flint River as its water source, according to a new study by a Hurley Medical Center doctor.

The data showed that the percentage of infants and children with above-average lead levels has nearly doubled citywide, and has nearly tripled among children in "high risk" areas of lead exposure, according to the study.

The Flint School District issued an advisory Friday, Sept. 25, stating the district is developing an internal action plan to ensure student safety at school.

The district is asking that, effective immediately, families send their children to school with bottled water.

For those parents and families who are unable to send children to school with bottled water, Tawwab is asking for the community to fill in the gaps.

"I'm very excited, but I need for everyone in the community really wrap yourself around your community schools," he said. "We need all of our children to be in school ready to learn and to do that we need them to have excellent drinking water. So hopefully we'll all answer this call."

School officials have contacted the DEQ and will be getting the water from all the schools tested. Food preparation will also use bottled water where necessary until further notice.

Officials are working on turning off the switch to the drinking fountains in the schools and school administrators are being reminded to make sure students are supervised during school hours.

"I'm taking control over the part of the day I have control over. And that is the school day so I'm making sure while the kids are in my possession that they're going to have safe drinking water," Tawwab said.

Tawwab said he's proud that the school officials are doing what needs to be done to keep children safe and healthy, but now he's asking public officials to do the same.

"They are children here. So while the politicians want to sit back and talk about the water, whose responsibility it is, there are children here," Tawwab said. "This weekend, I'll be honest, I thought about my own youngsters in my family. I wouldn't have them drink the water. I wouldn't.

"Think about it. Even if they aren't your own children, there are children here and we must always think about making decisions that are best for our children. ... I want to see the city do what is best for kids. They must have clean drinking water."

<http://michiganradio.org/post/flint-officials-exploring-return-detroit-water#stream/0>

Flint officials exploring return to Detroit water

Steve Carmody / Michigan Radio

City Administrator Natasha Henderson is talking with the different groups needed to make the switch back to the Detroit Water and Sewerage Department.

The city switched from DWSD about a year and a half ago to the Flint River for the city's drinking water. But the switch has been plagued with problems, from foul-smelling water to rising lead levels.

Mayor Dayne Walling says something must be done now.

“We need a comprehensive action plan in place this week,” says Walling.

The state will likely be asked to play a critical financial role.

Money is the key obstacle. Walling estimates going back to DWSD will cost the city of Flint an extra \$1.5 million a month.

It was the rising cost of Detroit water that led state-appointed emergency managers to decide to switch the city of Flint to a new water source.

The emergency manager signed a deal to hook up Flint to the new Karegnondi pipeline. The KWA pipeline will carry water from Lake Huron to Genesee County. But the KWA won't be online until 2016.

The Flint River was intended to bridge the gap between the end of the DWSD contract and the beginning of the KWA contract.

But since the switch was thrown in April 2014, Flint residents have complained about the smell, taste and appearance of the city's tap water.

More problems followed, including E. coli outbreaks and high levels of a potentially cancer-causing chemical.

Recently, multiple reports have revealed rising lead levels in Flint drinking water and in the blood of the city's young children.

<http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/09/26/shortfalls-em-law-writ-large-flint-water-crisis/72811990/>

Snyder must act on Flint lead crisis

By Nancy Kaffer, Detroit Free Press Columnist
11:11 a.m. EDT September 27, 2015

It's hard to understand the resounding yawn that seems to have emanated from the governor's office, following news that an increasing percentage of Flint kids have been lead poisoned after a switch in the city's water supply.

A spokeswoman for the Michigan Department of Health and Human Services sent a Free Press data analyst a chart she claimed would refute a report issued by a Hurley Medical Center researcher, who found that since the city started pumping water from the Flint River last April, the percentage of Flint kids with elevated blood-lead levels has more than doubled in some ZIP codes.

In fact, the state's data supports the Hurley researcher's claim — the number of kids with lead poisoning had been falling in Flint and across the state, until the water switch. Now it's increasing.

A spokeswoman for Gov. Rick Snyder wrote in an e-mail that the Hurley data had been “spliced and diced,” a suggestion that it's something other than accurate — even though the state's own data bolsters the Hurley report.

And officials across the administration have hastened to insist that Flint's water is safe and to suggest that although published reports say Michigan Department of Environmental Quality data show elevated lead levels in Flint's water, there's no reason to suspect that has caused more Flint kids to suffer from lead poisoning. And so far, none of it has spurred them to action.

But here's the situation: There's more lead in Flint's water than there used to be. And more Flint kids have lead in their blood, something that leads to serious, irreversible behavioral and developmental problems.

How it happened

The City of Flint decided in 2013 to join the new Karegnondi Water Authority, along with Genesee, Sanilac and Lapeer counties. That system won't be complete until 2016. In the interim, the city — under former emergency manager Darnell Earley — opted to pump its water from the Flint River, instead of continuing to purchase it from the Detroit Water and Sewerage Department — in part, state officials say, because DWSD planned to raise its rates for a short-term contract. The city considered blending Lake Huron and Flint River water, but ultimately chose to pull water from the Flint River alone. Genesee County, in contrast, will continue to purchase its water from DWSD while the new system is under construction.

Researchers say that Flint River water, more corrosive than the Lake Huron water pumped by the Detroit Water and Sewerage Department, is leaching lead from the city's aging infrastructure into the water supply.

The city, and its residents, need help. In the near term, residents — especially residents with formula-fed infants, whose diets are composed almost entirely of water — living in poverty need assistance to purchase bottled water or filtration systems. And the city needs to consider its long-term options, in particular, whether to reconnect to DWSD until the Karegnondi system is complete.

That wouldn't be a simple process. Former Flint EM Darnell Earley, now EM for Detroit Public Schools, wrote in an e-mailed statement that he was not involved in the decision to use river water, although it occurred during his tenure. He was also EM when a 9-mile section of pipe was sold to Genesee County, a decision he wrote was in the works before his appointment, meaning the city can't reconnect to the Detroit system without the cooperation of Genesee County.

Nor is the higher cost of buying water from DWSD — about \$1.5 million a month — in the city's budget, Flint Mayor Dayne Walling said. The city, which emerged from state oversight this year, would need the approval of its transitional advisory board to increase its water budget.

Flint, by the way, is broke.

U.S. Rep. Dan Kildee and state Senate Majority Leader Jim Ananich, both Flint Democrats, have pledged to bring financial and practical assistance to the district.

For now, Walling said, Flint's water treatment plant will begin to add anticorrosive agents to the Flint River water, which will take weeks to impact the water supply.

If I lived in Flint, I'd be mad. If I were a Flint parent, with a child who'd spent the last year and a half drinking lead-contaminated water, I'd be in despair.

We're talking about a public health crisis — one that could have been avoided.

Whose fault is it?

During their tenures, emergency managers are the ultimate authority in the cities they serve.

And so the responsibility for Flint's water lies, ultimately, with Snyder, and the emergency managers he appointed — and it is Snyder who must come to Flint's rescue. Walling says Flint's residents need funds for immediate relief, but that the city needs grants to start to upgrade its aging, lead-ridden water infrastructure.

Snyder hasn't hesitated to appoint or retain emergency managers in struggling cities across the state, a stance the Free Press Editorial Board has largely supported, with one caveat: Emergency managers have to make things better.

That is the premise on which the emergency manager law is predicated. Cities are the creation of the state. The state has a responsibility to care for the health and welfare of its residents, and sometimes, cities face challenges not fixable at the local level. In those cases, the state must step in.

That's certainly the case in Flint, which has suffered from the same loss of population — and tax base — as Detroit, but with fewer assets with which to leverage a satisfactory outcome.

In those circumstances, the Free Press editorial board has argued, the state has a responsibility to act, to restore some fiscal stability, and thus service delivery and quality of life for residents.

That's the catch.

It'd be easy to balance any city's budget: Lay off all the cops, sell all the ambulances, liquidate the city parks. But that wouldn't make life better for residents. That's the balance emergency managers must be mindful of — cost savings versus quality of life. Spending cuts versus service delivery. A city's bottom line can't be profit-driven.

That is the glaring weakness in the emergency manager law, and it on full display in Flint.

Snyder spokeswoman Sara Wurfel said the state signed off on the switch at the behest of Walling and the Flint City Council, and only "with serious reservations."

That's not exactly how Walling remembers it.

"I didn't support it one way or the other," he said. "It wasn't my decision. I had a lot of concerns about it that I raised internally, but the budget was in place ... I had a lot of concerns about it, but when it was decided that was the decision ... I didn't protest."

When the Flint City Council voted this year to reconnect to the Detroit water system, then-emergency manager Jerry Ambrose called its decision "incomprehensible": "Water from Detroit is no safer than water from Flint," Ambrose said, as reported in the Flint Journal.

It's pretty clear that's not true. It's not clear what anyone from the State of Michigan is prepared to do about it.

Sixteen months ago, Earley and Walling celebrated the city's departure from DWSD, raising glasses of Flint River water, prepared to toss them back, with a toast that strikes a hollow note today: Here's to Flint.

<http://www.detroitnews.com/story/news/2015/09/28/snyder-urged-help-flint-reconnect-detroit-water/72999390/>

Snyder urged to help Flint reconnect to Detroit water

Chad Livengood, Detroit News Lansing Bureau 7:21 a.m. EDT September 29, 2015

Lansing — Senate Minority Leader Jim Ananich urged Gov. Rick Snyder on Monday to help Flint switch back to Detroit's water system after medical researchers found elevated levels of lead in children who consumed water from the Flint River over the past year.

Ananich, a Democrat who represents Flint, said the city of 99,000 residents faces a “public health crisis” after pediatricians at Hurley Medical Center discovered higher levels of lead in the blood of Flint children tested since the city stopped buying drinking water from Detroit 18 months ago.

“I’m going to keep pushing for swift transfer back to Detroit,” Ananich told The Detroit News. “I think that seems like the most logical decision to make at this point in time.”

Flint residents have been complaining about the odor, taste and smell of the city’s water since Flint stopped buying bulk water from Detroit’s water department in April 2014 and started pumping drinking water from the Flint River. The river is serving as a temporary water source until a new regional pipeline from Lake Huron goes online in late 2016.

Ananich participated in a conference call with Snyder and members of his administration on Monday morning.

“I’ve been stressing an urgency, that this is a public health crisis and we need to get in front of it,” Ananich said.

Ananich also sought emergency funding to supply Flint residents with bottled water and to purchase thousands of water filters for household faucets to help filter out lead from the city’s aging lead-lined pipes that service some 15,000 customers.

Snyder spokeswoman Sara Wurfel said the governor’s office is “reviewing” Ananich’s ideas.

“We believe protecting public health is paramount and safe, clean, accessible drinking water is essential,” Wurfel said. “That’s what we are focused on helping ensure and deeply share the senator’s commitment to helping address the issue.”

Flint officials have said they stopped buying Detroit's water after the Detroit Water and Sewerage Department sought to hike the city's monthly water bill by \$1.5 million until Flint switched over to the new Karegnondi Pipeline Authority next year.

Last week, Genesee County pediatricians released a study of blood levels of Flint children younger than 5 between January 2013 and September 2013 when Flint used Detroit's water and January and September of this year when residents drank Flint River water.

The study found blood levels of lead in Flint children nearly doubled and in two Flint ZIP codes, the lead levels tripled. Federal officials have previously cited Flint for having high levels of a disinfectant by-product.

In a letter to Snyder Monday, Ananich said the city needs the state's assistance in negotiating a short-term water purchasing contract with the Detroit Water and Sewerage Department until a new pipeline project can be complete.

Earlier this year, Flint leaders rebuffed an offer by Detroit officials to reconnect Flint for \$12 million more annually, The Detroit News reported in February.

"Your administration has the ability to ensure a financially acceptable and responsible contract between Flint and the Detroit Water and Sewerage Department, particularly in light of the public health implications with the Flint River supply," Ananich wrote to Snyder.

The governor's office did not comment on Ananich's desire to have Flint switch back to Detroit's water supply.

But Wurfel noted the state has provided \$4.2 million in grants and loans to help Flint add a carbon filtration system and test its water.

“We understand that residents are frustrated,” Wurfel said in an email.

<http://michiganradio.org/post/study-suggests-flints-water-causing-increased-lead-poisoning#stream/0>

Study suggests Flint's water causing increased lead poisoning

Michigan Radio Stateside Staff • 16 hours ago

Last year, Flint ended five decades of service from the Detroit Water and Sewerage Department. The city's going to take its water from a new pipeline from Lake Huron, but that won't be ready until some time next year.

In the meantime, Flint decided that rather than continuing to pay for Detroit water, it would get its drinking water from the Flint River.

Almost immediately after making that change, residents began complaining about the way their drinking water looked, smelled and tasted. There were issues with the chemicals used to treat the river water.

And now a study performed by pediatrician Dr. Mona Hanna-Attisha of the Hurley Medical Center has found an increase in the number of Flint children who have been lead poisoned since the switch to the Flint River water.

Hanna-Attisha says she looked at the blood lead levels of Flint residents from before

and after the switch, and noticed that the percentage of children with elevated blood lead levels just about doubled.

“Pre-switch percent of children with elevated blood (lead) levels was 2.1%, and then after the switch it was 4%,” she says.

She adds that the data for children in the rest of Genessee County, which is sticking with Detroit water until the new pipeline is ready, showed no statistical change in blood lead levels.

Even more troubling, Hanna-Attisha says that state and national data showed blood lead levels in children dropping consistently year over year before the switch due to, “great public health efforts and education efforts and lead abatement efforts.”

“Whenever you see that percentage staying the same or that percentage increasing, that is a red flag,” she says.

There has been some concern surrounding Flint’s infrastructure and how it affects the quality of the water, but Hanna-Attisha says that’s not the key factor here.

“Infrastructure has a role, but this infrastructure hasn’t changed. It was old then, it is old now, but these levels have increased. So what’s changed is... the water,” she says.

She explains that the Flint River water is more corrosive than the water from Lake Huron, so it is aging Flint’s existing water infrastructure and causing the leaching of lead from these pipes.

According to Hanna-Attisha, “mountains and mountains of research” show that lead poisoning is linked with decreased IQ, behavioral issues, ADHD-like symptoms, and higher rates of violent offenses and incarcerations.

"It's just one of the absolute worst things that you could do for the life course of a child," Hanna-Attisha says.

The State Department of Health and Human Services, the Department of Environmental Quality and the Governor's office have downplayed and in some cases attempted to discredit Hanna-Attisha's findings, but she isn't swayed.

"I think it's fascinating, because if you look at their data, it pretty much shows the exact same thing. Every year there was a decrease in the total percentage of kids with elevated blood lead levels, and then the year after the switch it jumped up." she says. "You can't fight the numbers, the numbers are there, everything is consistent."

Hanna-Attisha advises that children, formula-fed infants and pregnant mothers in the area avoid tap water.

As for everyone else, she suggests running the water for five or so minutes before using it and only using cold water for cooking.

Here's a quick explainer for those trying to get a better understanding of the complicated water issues in Flint.

-Ryan Grimes, Stateside

<http://michiganradio.org/post/anger-over-flints-water-woes-reaching-boiling-point#stream/0>

Anger over Flint's water woes is reaching a boiling point

Steve Carmody, Michigan Radio • 17 hours ago

Dozens of people chanted "Fresh, Clean Water" as they jammed the lobby of Flint city hall Monday.

The anger over the city's long-simmering water problems is reaching a boiling point.

People have been complaining since April of last year, when the city switched from Detroit water to the Flint River as the city's source of drinking water.

Concerns about the water's taste and smell have been replaced by fears of rising lead levels in Flint's drinking water. Virginia Tech researchers blame the "corrosiveness" of the Flint River for the elevated lead levels. Other research shows children's blood lead levels in Flint have doubled since the switch.

A coalition of groups say the time has passed for further testing.

Pastor Allen Overton is calling on Gov. Snyder and Flint's elected leaders to immediately return to getting the city's drinking water from Detroit.

"If we do not get any response from either of them, we will begin to protest in this city like they have never seen before," says Overton.

Flint pastors plan to meet with their attorney tomorrow to review their options.

Meanwhile, Gov. Snyder says his office is talking with Flint leaders and collecting facts. The governor declined to say what action might be taken next.

<http://michiganradio.org/post/bottled-water-donations-flowing-flint-schools#stream/0>

Bottled water donations flowing into Flint schools

Steve Carmody, Michigan Radio • 18 hours ago

It took five Home Depot employees a couple trips to unload a pickup truck filled with dozens of cases of bottled water into a classroom at a Flint elementary school this afternoon.

The donation was the largest, but far from the only, bottled water donation to Flint schools today.

School Superintendent Bilal Tawwab asked for donations after reports that Flint's drinking water contains "serious" lead levels. Last week, local hospital officials announced their tests showed blood lead levels in children in Flint had nearly doubled since the switch.

The timeline corresponds with the city's switch from the Detroit Water and Sewerage Department to the Flint River as the source of its drinking water.

Children are especially at risk when exposed to high lead levels.

Tawwab is grateful for the response his request has received so far. But he adds the more than 5,000 students in the Flint Community Schools will need more.

“We need a lot more donations like this,” Tawwab said as he stood in front of the 80-plus cases donated by two local Home Depots. “We just want to be able to meet the demand ... so we’re just going to take as much as you guys will give.”

Tawwab says he’s asked the Michigan Department of Environmental Quality to come in and test the water in Flint school buildings.

He also asked state and local officials to come up with a solution to Flint’s water woes.

Researchers from Virginia Tech blame the highly “corrosive” nature of the Flint River. They claim the river water is breaking down lead pipes and lead solder used in water pipes, creating lead levels in some homes at above 15 parts per billion.

Flint Mayor Dayne Walling has asked the state for \$30 million to address the problem. \$10 million would be for replacing lead pipes.

... ..
Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

To: Melissa Harrison (Harrison.Melissa@epa.gov)[Harrison.Melissa@epa.gov]
From: Kelley, Jeff
Sent: Tue 9/29/2015 7:59:59 PM
Subject: FW: Flint drinking water clips

Here's the batch of clips I from this morning...

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 9:09 AM
To: Susan Hedman; Robert Kaplan (kaplan.robert@epa.gov); Hyde, Tinka
Cc: Poy, Thomas; Henry, Timothy; Cassell, Peter; Rowan, Anne (rowan.anne@epa.gov); Eileen Deamer; Fortin, Denise; Ronna Beckmann; Arcaute, Francisco (Arcaute.Francisco@epa.gov)
Subject: Flint drinking water clips

Lots of clips this morning ...

- Clean water activists demand Detroit reconnection in Flint after lead study, Flint Journal
- City administrator asks Detroit about reconnecting Flint to Lake Huron, Flint Journal
- Flint schools chief seeking water donations for students after lead warning, Flint Journal
- Flint officials exploring return to Detroit water, Michigan Radio
- Snyder must act on Flint lead crisis, Detroit Free Press
- Snyder urged to help Flint reconnect to Detroit water, Detroit News
- Study suggests Flint's water causing increased lead poisoning, Michigan Radio

- Anger over Flint's water woes is reaching a boiling point, Michigan Radio
 - Bottled water donations flowing into Flint schools, Michigan Radio
-

http://www.mlive.com/news/flint/index.ssf/2015/09/coalition_for_clean_water_dema.html

Clean water activists demand Detroit reconnection in Flint after lead study

By Molly Young | myoung7@mlive.com

The Flint Journal on September 28, 2015 at 2:54 PM, updated September 29, 2015 at 9:04 AM

FLINT, MI -- The Coalition for Clean Water is demanding Flint's administration switch back to purchasing water from Detroit after recent studies showed a spike in lead levels in drinking water and in children since the switch to Flint River water more than a year ago.

Dozens of people attended the conference, which was held in the lobby of Flint City Hall Monday morning, Sept. 28. After Pastor Alfred Harris Sr. gave opening remarks, Pastor Allen C. Overton, chair of the grassroots coalition, said during the conference that the recent studies have proven Flint water is unsafe, and that residents must continue pushing city officials for change.

"We have found all the facts, we have found all the information – it's time for the citizens of Flint to demand fresh, clean water from this administration. And they need to understand we are not going away and we want the water source changed immediately," Overton said during the conference.

At one point during the conference, attendees began chanting over Overton: "Fresh, clean water."

Harris said the coalition has met with Mayor Dayne Walling and has reached out to Governor Rick Snyder asking for a sit-down to discuss possible solutions.

Walling said during a press conference Friday, Sept. 25, that he believes the city's use of the river has resulted in an increased risk of lead leaching into drinking water because of the river water's corrosiveness and said he would consider support for reconnecting Flint to the Detroit water system again.

Overton said during the conference that the city has "skewed test procedures and otherwise misrepresented data to the MDEQ."

Walling denied those claims in an email to The Flint Journal on Monday afternoon.

"The City of Flint has followed the guidance from the Michigan Department of Environmental Quality and the U.S. Environmental Protection Agency. Claims to the contrary are false because the City is actually going above and beyond the required standards to ensure the community's health and safety," Walling said.

Walling, speaking at a news conference to issue a lead advisory for the city last week, said he's willing to discuss buying Detroit-treated Lake Huron water again, but he said that decision rests with Gov. Rick Snyder.

His comments came the day after a Hurley Medical Center doctor released a study showing increasing incidents of elevated blood lead levels in Flint children.

In his statement on Monday, Walling said the administration is looking for ways to address health risks in the system.

"I was troubled by the doctors' data on elevated blood levels and I am calling for the collective resources of the federal and state governments and local partners to address all of the immediate concerns and long-term risks with lead in our old system," Walling said. "Every option is on the table to fix Flint's water."

Flint's long-term drinking water plan is still to eventually draw water from a new pipeline to Lake Huron that's being built by the city and Genesee County through the Karegnondi Water Authority.

But the pipeline isn't expected to be completed until some time in 2016 and Flint has struggled with water quality and treatment since switching to the Flint River in the interim.

Overton said the coalition has since asked for a sit-down with city and state officials, but have not yet received a response. He said the coalition is weighing its options, including mass protests, in case there is no response or change announced soon.

"If we do not get a response from either of them we will begin to protest in this city like they have never seen before," Overton said.

Overton and Harris did not say when such an action would be taken, or exactly what it would entail, but insisted they will not back down.

Harris said that in the past, Flint has contributed in a major way to the state's financial stability, and now it's time for the state to repay the city by helping them find a source of clean water.

"Flint deserves the purist water source. Let the state pay for it. Let the federal government pay for it. Let the United Nations pay for it," Harris said.

http://www.mlive.com/news/flint/index.ssf/2015/09/city_administrator_asks_detroi.html

City administrator asks Detroit about reconnecting Flint to Lake Huron

By Ron Fonger | rfonger1@mlive.com

The Flint Journal on September 28, 2015 at 7:45 PM, updated September 28, 2015 at 8:13 PM

FLINT, MI -- A key official inside City Hall says she's trying to broker a deal to reconnect Flint to the Detroit water system.

City Administrator Natasha Henderson said she's approached the Detroit Water and Sewerage Department about the potential reconnection because of recent concerns about lead levels in treated Flint River water.

Henderson told the City Council today, Sept. 28, that she's attempted to contact representatives of DWSD and the Great Lakes Water Authority, the consortium that will take over day-to-day operation of the Detroit system next year.

The move is significant because Henderson has broad powers in running the city and is the primary contact between the state-appointed Receivership Transition Advisory Board and the rest of city government.

"There is a better chance we would not have as much of a lead problem" if the city stopped using the Flint River, Henderson said. "It is more corrosive (than Detroit-treated Lake Huron water).

The Flint River water "can cause more problems," she said.

Henderson's statements today represent a shift in her approach to the issue of Flint drinking water.

Appointed to her position by former emergency manager Darnell Earley, Henderson has never previously publicly promoted reconnecting Flint to the Detroit water system.

Along with former emergency managers, Henderson has said previously that Flint could not afford to switch back to DWSD water and said today Flint still won't be able to pay for Detroit water without help or lower rates than have been proposed previously.

"I would like the state to help us get back to DWSD if that's possible," the city administrator said. "I would like for the state to help us do that."

Henderson's move comes just days after Mayor Dayne Walling opened the door to returning to the Detroit water system as work continues on the Karegnondi Water Authority pipeline.

Walling had been an advocate of using the Flint River as the city's source of drinking water since it switched from the Detroit water system in April 2014.

But the mayor shifted his approach to the issue last week after a report by Dr. Mona Hanna-Attisha, director of Hurley Medical Center's pediatric residency program, showed a near doubling of the percentage of children living in Flint with elevated blood lead levels since the switch to river water.

The Hurley study followed testing by Virginia Tech, which showed 10 percent of Flint homes tested by the university had 25 parts per billion of lead or more, far more than the allowable level -- 15 ppb -- set in federal guidelines.

City and state officials have said their testing shows Flint's water supply meets all health and safety regulations, never rising above 11 ppb in more than 10 percent of homes during the last 16 months, but data from the state shows lead levels have spiked since the city began using the river as its water source.

Henderson said a return to Detroit water wouldn't eliminate lead but could cut the amount of lead in tap water because treated river water is more corrosive than lake water.

State Sen. Jim Ananich, D-Flint, also today called on the state to assist the city in reconnecting to the Detroit water system until the completion of the KWA pipeline.

Dave Murray, a spokesman for Snyder, said in a statement today that the governor "and state agencies continue to work with city leaders, looking at a variety of approaches to the problem."

Several city residents continued to speak out about Flint's water during a City Council meeting today and some said Henderson and others should have acted long ago to end the use of river water.

"The city of Flint has eroded the public trust," said Nayyirah Shariff, a representative of the Democracy Defense League, one of the citizen groups fighting against use of the Flint River. "Our children and infants cannot be lost in the shuffle."

http://www.mlive.com/news/flint/index.ssf/2015/09/flint_superintendent_looking_t.html

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By Sarah Schuch | sschuch@mlive.com The Flint Journal on September 28, 2015 at 4:05 PM, updated September 28, 2015 at 7:13 PM

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He urged the community to help at a news conference at Pierce Elementary.

"We need your help. On Friday, we all read the advisory as it relates to the water challenges here in Flint," Tawwab said during a press conference. "And I must say, as their champion, I'm going to stand for children and I unfortunately had to make the decision that at this time it would be best that our children no longer drink the water in our Flint Community Schools until further notice."

Two large water donations came to the Flint School District on Monday. Home Depot – the Burton and Pierson Road locations – donated 84 cases of water and were present during the press conference. Sams Club donated 72 cases that morning.

The district is asking students to avoid school drinking fountains and bring bottled water to school following a lead advisory issued by the city.

Infants and children are being found with elevated levels of lead in their blood since the city switched to using the Flint River as its water source, according to a new study by a Hurley Medical Center doctor.

The data showed that the percentage of infants and children with above-average lead levels has nearly doubled citywide, and has nearly tripled among children in "high risk" areas of lead exposure, according to the study.

The Flint School District issued an advisory Friday, Sept. 25, stating the district is developing an internal action plan to ensure student safety at school.

The district is asking that, effective immediately, families send their children to school with bottled water.

For those parents and families who are unable to send children to school with bottled water, Tawwab is asking for the community to fill in the gaps.

"I'm very excited, but I need for everyone in the community really wrap yourself around your community schools," he said. "We need all of our children to be in school ready to learn and to do that we need them to have excellent drinking water. So hopefully we'll all answer this call."

School officials have contacted the DEQ and will be getting the water from all the schools tested. Food preparation will also use bottled water where necessary until further notice.

Officials are working on turning off the switch to the drinking fountains in the schools and school administrators are being reminded to make sure students are supervised during school hours.

"I'm taking control over the part of the day I have control over. And that is the school day so I'm making sure while the kids are in my possession that they're going to have safe drinking water," Tawwab said.

Tawwab said he's proud that the school officials are doing what needs to be done to keep children safe and healthy, but now he's asking public officials to do the same.

"They are children here. So while the politicians want to sit back and talk about the water, whose responsibility it is, there are children here," Tawwab said. "This weekend, I'll be honest, I thought about my own youngsters in my family. I wouldn't have them drink the water. I wouldn't.

"Think about it. Even if they aren't your own children, there are children here and we must always think about making decisions that are best for our children. ... I want to see the city do what is best for kids. They must have clean drinking water."

<http://michiganradio.org/post/flint-officials-exploring-return-detroit-water#stream/0>

Flint officials exploring return to Detroit water

Steve Carmody / Michigan Radio

City Administrator Natasha Henderson is talking with the different groups needed to make the switch back to the Detroit Water and Sewerage Department.

The city switched from DWSD about a year and a half ago to the Flint River for the city's drinking water. But the switch has been plagued with problems, from foul-smelling water to rising lead levels.

Mayor Dayne Walling says something must be done now.

“We need a comprehensive action plan in place this week,” says Walling.

The state will likely be asked to play a critical financial role.

Money is the key obstacle. Walling estimates going back to DWSD will cost the city of Flint an extra \$1.5 million a month.

It was the rising cost of Detroit water that led state-appointed emergency managers to decide to switch the city of Flint to a new water source.

The emergency manager signed a deal to hook up Flint to the new Karegnondi pipeline. The KWA pipeline will carry water from Lake Huron to Genesee County. But the KWA won't be online until 2016.

The Flint River was intended to bridge the gap between the end of the DWSD contract and the beginning of the KWA contract.

But since the switch was thrown in April 2014, Flint residents have complained about the smell, taste and appearance of the city's tap water.

More problems followed, including E. coli outbreaks and high levels of a potentially cancer-causing chemical.

Recently, multiple reports have revealed rising lead levels in Flint drinking water and in the blood of the city's young children.

<http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/09/26/shortfalls-em-law-writ-large-flint-water-crisis/72811990/>

Snyder must act on Flint lead crisis

By Nancy Kaffer, Detroit Free Press Columnist
11:11 a.m. EDT September 27, 2015

It's hard to understand the resounding yawn that seems to have emanated from the governor's office, following news that an increasing percentage of Flint kids have been lead poisoned after a switch in the city's water supply.

A spokeswoman for the Michigan Department of Health and Human Services sent a Free Press data analyst a chart she claimed would refute a report issued by a Hurley Medical Center researcher, who found that since the city started pumping water from the Flint River last April, the percentage of Flint kids with elevated blood-lead levels has more than doubled in some ZIP codes.

In fact, the state's data supports the Hurley researcher's claim — the number of kids with lead poisoning had been falling in Flint and across the state, until the water switch. Now it's increasing.

A spokeswoman for Gov. Rick Snyder wrote in an e-mail that the Hurley data had been “spliced and diced,” a suggestion that it's something other than accurate — even though the state's own data bolsters the Hurley report.

And officials across the administration have hastened to insist that Flint's water is safe and to suggest that although published reports say Michigan Department of Environmental Quality data show elevated lead levels in Flint's water, there's no reason to suspect that has caused more Flint kids to suffer from lead poisoning. And so far, none of it has spurred them to action.

But here's the situation: There's more lead in Flint's water than there used to be. And more Flint kids have lead in their blood, something that leads to serious, irreversible behavioral and developmental problems.

How it happened

The City of Flint decided in 2013 to join the new Karegnondi Water Authority, along with Genesee, Sanilac and Lapeer counties. That system won't be complete until 2016. In the interim, the city — under former emergency manager Darnell Earley — opted to pump its water from the Flint River, instead of continuing to purchase it from the Detroit Water and Sewerage Department — in part, state officials say, because DWSD planned to raise its rates for a short-term contract. The city considered blending Lake Huron and Flint River water, but ultimately chose to pull water from the Flint River alone. Genesee County, in contrast, will continue to purchase its water from DWSD while the new system is under construction.

Researchers say that Flint River water, more corrosive than the Lake Huron water pumped by the Detroit Water and Sewerage Department, is leaching lead from the city's aging infrastructure into the water supply.

The city, and its residents, need help. In the near term, residents — especially residents with formula-fed infants, whose diets are composed almost entirely of water — living in poverty need assistance to purchase bottled water or filtration systems. And the city needs to consider its long-term options, in particular, whether to reconnect to DWSD until the Karegnondi system is complete.

That wouldn't be a simple process. Former Flint EM Darnell Earley, now EM for Detroit Public Schools, wrote in an e-mailed statement that he was not involved in the decision to use river water, although it occurred during his tenure. He was also EM when a 9-mile section of pipe was sold to Genesee County, a decision he wrote was in the works before his appointment, meaning the city can't reconnect to the Detroit system without the cooperation of Genesee County.

Nor is the higher cost of buying water from DWSD — about \$1.5 million a month — in the city's budget, Flint Mayor Dayne Walling said. The city, which emerged from state oversight this year, would need the approval of its transitional advisory board to increase its water budget.

Flint, by the way, is broke.

U.S. Rep. Dan Kildee and state Senate Majority Leader Jim Ananich, both Flint Democrats, have pledged to bring financial and practical assistance to the district.

For now, Walling said, Flint's water treatment plant will begin to add anticorrosive agents to the Flint River water, which will take weeks to impact the water supply.

If I lived in Flint, I'd be mad. If I were a Flint parent, with a child who'd spent the last year and a half drinking lead-contaminated water, I'd be in despair.

We're talking about a public health crisis — one that could have been avoided.

Whose fault is it?

During their tenures, emergency managers are the ultimate authority in the cities they serve.

And so the responsibility for Flint's water lies, ultimately, with Snyder, and the emergency managers he appointed — and it is Snyder who must come to Flint's rescue. Walling says Flint's residents need funds for immediate relief, but that the city needs grants to start to upgrade its aging, lead-ridden water infrastructure.

Snyder hasn't hesitated to appoint or retain emergency managers in struggling cities across the state, a stance the Free Press Editorial Board has largely supported, with one caveat: Emergency managers have to make things better.

That is the premise on which the emergency manager law is predicated. Cities are the creation of the state. The state has a responsibility to care for the health and welfare of its residents, and sometimes, cities face challenges not fixable at the local level. In those cases, the state must step in.

That's certainly the case in Flint, which has suffered from the same loss of population — and tax base — as Detroit, but with fewer assets with which to leverage a satisfactory outcome.

In those circumstances, the Free Press editorial board has argued, the state has a responsibility to act, to restore some fiscal stability, and thus service delivery and quality of life for residents.

That's the catch.

It'd be easy to balance any city's budget: Lay off all the cops, sell all the ambulances, liquidate the city parks. But that wouldn't make life better for residents. That's the balance emergency managers must be mindful of — cost savings versus quality of life. Spending cuts versus service delivery. A city's bottom line can't be profit-driven.

That is the glaring weakness in the emergency manager law, and it on full display in Flint.

Snyder spokeswoman Sara Wurfel said the state signed off on the switch at the behest of Walling and the Flint City Council, and only "with serious reservations."

That's not exactly how Walling remembers it.

"I didn't support it one way or the other," he said. "It wasn't my decision. I had a lot of concerns about it that I raised internally, but the budget was in place ... I had a lot of concerns about it, but when it was decided that was the decision ... I didn't protest."

When the Flint City Council voted this year to reconnect to the Detroit water system, then-emergency manager Jerry Ambrose called its decision "incomprehensible": "Water from Detroit is no safer than water from Flint," Ambrose said, as reported in the Flint Journal.

It's pretty clear that's not true. It's not clear what anyone from the State of Michigan is prepared to do about it.

Sixteen months ago, Earley and Walling celebrated the city's departure from DWSD, raising glasses of Flint River water, prepared to toss them back, with a toast that strikes a hollow note today: Here's to Flint.

<http://www.detroitnews.com/story/news/2015/09/28/snyder-urged-help-flint-reconnect-detroit-water/72999390/>

Snyder urged to help Flint reconnect to Detroit water

Chad Livengood, Detroit News Lansing Bureau 7:21 a.m. EDT September 29, 2015

Lansing — Senate Minority Leader Jim Ananich urged Gov. Rick Snyder on Monday to help Flint switch back to Detroit's water system after medical researchers found elevated levels of lead in children who consumed water from the Flint River over the past year.

Ananich, a Democrat who represents Flint, said the city of 99,000 residents faces a “public health crisis” after pediatricians at Hurley Medical Center discovered higher levels of lead in the blood of Flint children tested since the city stopped buying drinking water from Detroit 18 months ago.

“I’m going to keep pushing for swift transfer back to Detroit,” Ananich told The Detroit News. “I think that seems like the most logical decision to make at this point in time.”

Flint residents have been complaining about the odor, taste and smell of the city’s water since Flint stopped buying bulk water from Detroit’s water department in April 2014 and started pumping drinking water from the Flint River. The river is serving as a temporary water source until a new regional pipeline from Lake Huron goes online in late 2016.

Ananich participated in a conference call with Snyder and members of his administration on Monday morning.

“I’ve been stressing an urgency, that this is a public health crisis and we need to get in front of it,” Ananich said.

Ananich also sought emergency funding to supply Flint residents with bottled water and to purchase thousands of water filters for household faucets to help filter out lead from the city’s aging lead-lined pipes that service some 15,000 customers.

Snyder spokeswoman Sara Wurfel said the governor’s office is “reviewing” Ananich’s ideas.

“We believe protecting public health is paramount and safe, clean, accessible drinking water is essential,” Wurfel said. “That’s what we are focused on helping ensure and deeply share the senator’s commitment to helping address the issue.”

Flint officials have said they stopped buying Detroit's water after the Detroit Water and Sewerage Department sought to hike the city's monthly water bill by \$1.5 million until Flint switched over to the new Karegnondi Pipeline Authority next year.

Last week, Genesee County pediatricians released a study of blood levels of Flint children younger than 5 between January 2013 and September 2013 when Flint used Detroit's water and January and September of this year when residents drank Flint River water.

The study found blood levels of lead in Flint children nearly doubled and in two Flint ZIP codes, the lead levels tripled. Federal officials have previously cited Flint for having high levels of a disinfectant by-product.

In a letter to Snyder Monday, Ananich said the city needs the state's assistance in negotiating a short-term water purchasing contract with the Detroit Water and Sewerage Department until a new pipeline project can be complete.

Earlier this year, Flint leaders rebuffed an offer by Detroit officials to reconnect Flint for \$12 million more annually, The Detroit News reported in February.

"Your administration has the ability to ensure a financially acceptable and responsible contract between Flint and the Detroit Water and Sewerage Department, particularly in light of the public health implications with the Flint River supply," Ananich wrote to Snyder.

The governor's office did not comment on Ananich's desire to have Flint switch back to Detroit's water supply.

But Wurfel noted the state has provided \$4.2 million in grants and loans to help Flint add a carbon filtration system and test its water.

“We understand that residents are frustrated,” Wurfel said in an email.

<http://michiganradio.org/post/study-suggests-flints-water-causing-increased-lead-poisoning#stream/0>

Study suggests Flint's water causing increased lead poisoning

Michigan Radio Stateside Staff • 16 hours ago

Last year, Flint ended five decades of service from the Detroit Water and Sewerage Department. The city's going to take its water from a new pipeline from Lake Huron, but that won't be ready until some time next year.

In the meantime, Flint decided that rather than continuing to pay for Detroit water, it would get its drinking water from the Flint River.

Almost immediately after making that change, residents began complaining about the way their drinking water looked, smelled and tasted. There were issues with the chemicals used to treat the river water.

And now a study performed by pediatrician Dr. Mona Hanna-Attisha of the Hurley Medical Center has found an increase in the number of Flint children who have been lead poisoned since the switch to the Flint River water.

Hanna-Attisha says she looked at the blood lead levels of Flint residents from before

and after the switch, and noticed that the percentage of children with elevated blood lead levels just about doubled.

“Pre-switch percent of children with elevated blood (lead) levels was 2.1%, and then after the switch it was 4%,” she says.

She adds that the data for children in the rest of Genessee County, which is sticking with Detroit water until the new pipeline is ready, showed no statistical change in blood lead levels.

Even more troubling, Hanna-Attisha says that state and national data showed blood lead levels in children dropping consistently year over year before the switch due to, “great public health efforts and education efforts and lead abatement efforts.”

“Whenever you see that percentage staying the same or that percentage increasing, that is a red flag,” she says.

There has been some concern surrounding Flint’s infrastructure and how it affects the quality of the water, but Hanna-Attisha says that’s not the key factor here.

“Infrastructure has a role, but this infrastructure hasn’t changed. It was old then, it is old now, but these levels have increased. So what’s changed is... the water,” she says.

She explains that the Flint River water is more corrosive than the water from Lake Huron, so it is aging Flint’s existing water infrastructure and causing the leaching of lead from these pipes.

According to Hanna-Attisha, “mountains and mountains of research” show that lead poisoning is linked with decreased IQ, behavioral issues, ADHD-like symptoms, and higher rates of violent offenses and incarcerations.

"It's just one of the absolute worst things that you could do for the life course of a child," Hanna-Attisha says.

The State Department of Health and Human Services, the Department of Environmental Quality and the Governor's office have downplayed and in some cases attempted to discredit Hanna-Attisha's findings, but she isn't swayed.

"I think it's fascinating, because if you look at their data, it pretty much shows the exact same thing. Every year there was a decrease in the total percentage of kids with elevated blood lead levels, and then the year after the switch it jumped up." she says. "You can't fight the numbers, the numbers are there, everything is consistent."

Hanna-Attisha advises that children, formula-fed infants and pregnant mothers in the area avoid tap water.

As for everyone else, she suggests running the water for five or so minutes before using it and only using cold water for cooking.

Here's a quick explainer for those trying to get a better understanding of the complicated water issues in Flint.

-Ryan Grimes, Stateside

<http://michiganradio.org/post/anger-over-flints-water-woes-reaching-boiling-point#stream/0>

Anger over Flint's water woes is reaching a boiling point

Steve Carmody, Michigan Radio • 17 hours ago

Dozens of people chanted "Fresh, Clean Water" as they jammed the lobby of Flint city hall Monday.

The anger over the city's long-simmering water problems is reaching a boiling point.

People have been complaining since April of last year, when the city switched from Detroit water to the Flint River as the city's source of drinking water.

Concerns about the water's taste and smell have been replaced by fears of rising lead levels in Flint's drinking water. Virginia Tech researchers blame the "corrosiveness" of the Flint River for the elevated lead levels. Other research shows children's blood lead levels in Flint have doubled since the switch.

A coalition of groups say the time has passed for further testing.

Pastor Allen Overton is calling on Gov. Snyder and Flint's elected leaders to immediately return to getting the city's drinking water from Detroit.

"If we do not get any response from either of them, we will begin to protest in this city like they have never seen before," says Overton.

Flint pastors plan to meet with their attorney tomorrow to review their options.

Meanwhile, Gov. Snyder says his office is talking with Flint leaders and collecting facts. The governor declined to say what action might be taken next.

<http://michiganradio.org/post/bottled-water-donations-flowing-flint-schools#stream/0>

Bottled water donations flowing into Flint schools

Steve Carmody, Michigan Radio • 18 hours ago

It took five Home Depot employees a couple trips to unload a pickup truck filled with dozens of cases of bottled water into a classroom at a Flint elementary school this afternoon.

The donation was the largest, but far from the only, bottled water donation to Flint schools today.

School Superintendent Bilal Tawwab asked for donations after reports that Flint's drinking water contains "serious" lead levels. Last week, local hospital officials announced their tests showed blood lead levels in children in Flint had nearly doubled since the switch.

The timeline corresponds with the city's switch from the Detroit Water and Sewerage Department to the Flint River as the source of its drinking water.

Children are especially at risk when exposed to high lead levels.

Tawwab is grateful for the response his request has received so far. But he adds the more than 5,000 students in the Flint Community Schools will need more.

“We need a lot more donations like this,” Tawwab said as he stood in front of the 80-plus cases donated by two local Home Depots. “We just want to be able to meet the demand ... so we’re just going to take as much as you guys will give.”

Tawwab says he’s asked the Michigan Department of Environmental Quality to come in and test the water in Flint school buildings.

He also asked state and local officials to come up with a solution to Flint’s water woes.

Researchers from Virginia Tech blame the highly “corrosive” nature of the Flint River. They claim the river water is breaking down lead pipes and lead solder used in water pipes, creating lead levels in some homes at above 15 parts per billion.

Flint Mayor Dayne Walling has asked the state for \$30 million to address the problem. \$10 million would be for replacing lead pipes.

... ..
Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

To: Beckmann, Ronna Erin[beckmann.ronna@epa.gov]; Deamer, Eileen[deamer.eileen@epa.gov]
From: Fortin, Denise
Sent: Tue 9/29/2015 9:02:57 PM
Subject: FW: More Flint clips

FYI

Denise Fortin

Congressional Liaison

Office of Regional Administrator

U.S. Environmental Protection Agency

312-886-9859

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 3:48 PM
To: Hedman, Susan; Kaplan, Robert; Hyde, Tinka
Cc: Rowan, Anne; Fortin, Denise; Harrison, Melissa; Cassell, Peter
Subject: More Flint clips

A couple more clips from today ...

- [REDACTED] Gov. Snyder says action coming on Flint's water woes (Detroit Free Press)
- [REDACTED] Governor helped hush-hush delivery of water filters to Flint pastors (Flint Journal)

Also, I'm told the story is running on NPR.

<http://www.freep.com/story/news/local/michigan/2015/09/29/snyder-state-action-coming-flint-water/73033462/>

Gov. Snyder says action coming on Flint's water woes

Paul Egan, Detroit Free Press Lansing Bureau
4:34 p.m. EDT September 29, 2015

LANSING — Michigan Gov. Rick Snyder said Tuesday the drinking water situation in Flint is a serious issue and he expects the state to come forward with "action steps" by early next week.

Snyder did not answer directly when asked if he thinks the drinking water in Flint is contributing to elevated lead levels in children there.

But he told reporters "a large team of people" in state government is working hard on the Flint drinking water issue.

"During the course of the week or early next week we hopefully will be coming out with more public action steps," some of which are already under way, and others to be implemented, Snyder said.

"I take it as a serious issue; the Flint water situation," Snyder said in Lansing. "Lead is a serious issue, so again, we're spending a lot of time and effort looking at this and trying to partner with the people in Flint on that issue."

Flint's drinking water has had odor and taste problems since the city, awaiting a hook-up to Lake Huron water expected next year, stopped getting its supply from the Detroit water department in 2014 and switched to the Flint River.

Senate Minority Leader Jim Ananich, D-Flint, has urged Snyder to help Flint return to the Detroit water system, which also has Lake Huron as its source.

Mona Hanna-Attisha, a researcher at Flint's Hurley Medical Center, analyzed blood-lead level information collected as part of a routine screening process, and found that the percentage of Flint children with elevated blood-lead levels has increased significantly since the city started pumping water from the Flint River in April 2014. In some ZIP codes — those considered most at-risk — the percentage of kids affected by lead has doubled.

The Michigan Department of Health and Human Services said the increase was "seasonal and not related to the water supply."

But a Free Press analysis found that the numbers that provide the basis for a chart the state released Thursday, indicating seasonal changes, support the Hurley data.

The Hurley data shows that percentage of kids under 5 with elevated lead-blood levels increased from 2.1% before the water supply switch to 4% after, across the city. In high-risk ZIP codes, the percentage of affected kids was larger, from 2.5% before the switch to 6.3% after.

The state's data, which includes a larger sample size of children under 16, show that before the switch to Flint River water, 2.37% of Flint kids had elevated blood-lead levels; after the switch, it was 3.21%, a significant increase not just because it's a reversal of the trend, but because it shows that a much larger percentage of Flint kids were lead-poisoned than in the previous year.

Snyder spokesman Dave Murray confirmed Tuesday that about two months ago, Snyder and his office worked with a corporate donor who wanted to remain anonymous to provide 1,500 faucet filters to a Flint-area group of pastors, who helped distribute them.

"The administration has worked closely with the Concerned Pastors group on the water issue, and the members are passionate about supporting their parishioners and the Flint community as a whole," Murray said.

"We certainly share their concern that everyone in Flint should have safe, clean water. Flint water does meet state and federal safety standards. People have complained about the color and the odor, and faucet filters will help with those challenges as well as improving water quality overall."

http://www.mlive.com/news/flint/index.ssf/2015/09/state_assured_flint_water_was.html

Governor helped hush-hush delivery of water filters to Flint pastors

By Ron Fonger | rfonger1@mlive.com The Flint Journal on September 29, 2015 at 1:01 PM

FLINT, MI -- Gov. Rick Snyder quietly helped deliver 1,500 water filters to Flint last month -- even as state officials gave assurances that the city's tap water was safe and meeting all regulatory standards.

Dave Murray, a spokesman for Snyder, confirmed that the filters, distributed by the Concerned Pastors for Social Action, came from a "corporate donor that does not wish to be recognized but cares deeply about the community."

The donor "worked with the governor to provide 1,500 faucet filters to be distributed to city homes," Murray said in an email.

The state's involvement in the filter distribution was never publicized and pastors told The Flint Journal-MLive Tuesday, Sept. 29, that they were asked by staffers in the governor's office not to speak about it.

Flint city Councilwoman Jackie Poplar raised the subject during a council committee meeting Monday, Sept. 28, as officials discussed the potential for Flint to reconnect to the Detroit Water and Sewerage Department. Recent testing and studies show lead levels have been rising -- both in water and children's blood.

"Those filters came from the governor," Poplar said. "The governor seems to be the one with the golden key" to make something happen, she said.

Pastors involved with the giveaway of the filters, which were designed to remove total trihalomethanes (TTHM) as well as lead from water, said they accepted the condition that they not discuss the state's role in securing the equipment, said the Rev. Allen Overton.

Overton and the Rev. Alfred Harris said they thought the arrangement was odd, but did not want to jeopardize receiving the water filters, which Flint residents waited in line for and which were given away in just three hours.

"If the water was OK, why would the governor work with someone to provide the filters?" Harris said Tuesday. "I think the state working with the private donor is an admission (that) the people needed some help."

"Our objective was to help the people. (Now) everybody is trying to cover their behinds," Harris said.

Flint took over treatment of its water supply from the city of Detroit in April 2014 and switched its water source from Lake Huron to the Flint River.

In the 17 months since, the city has struggled to keep bacteria out of city water, was found in violation of the Safe Drinking Water Act because of TTHM levels, and last week declared a health advisory after a study showed elevated blood lead levels in children since the transition.

Murray said the governor's office simply "did not want to draw attention to (the state's role in the filter donation), respecting the wishes of the donor."

"Our focus is on helping the people in Flint. We are grateful to the pastors for working with us on this," Murray said in an email.

The Snyder spokesman said Flint water "does meet state and federal safety standards" but said the filters also are a benefit to customers with water quality issues such as discoloration and odor.

"We are talking with other businesses and groups that might be able to expand the (filter) effort," Murray's email says.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

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http://www.mlive.com/news/flint/index.ssf/2015/09/state_assured_flint_water_was.html

Governor helped hush-hush delivery of water filters to Flint pastors

By Ron Fonger | rfonger1@mlive.com The Flint Journal on September 29, 2015 at 1:01 PM

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Dave Murray, a spokesman for Snyder, confirmed that the filters, distributed by the Concerned Pastors for Social Action, came from a "corporate donor that does not wish to be recognized but cares deeply about the community."

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The state's involvement in the filter distribution was never publicized and pastors told The Flint Journal-MLive Tuesday, Sept. 29, that they were asked by staffers in the governor's office not to speak about it.

Flint city Councilwoman Jackie Poplar raised the subject during a council committee meeting Monday, Sept. 28, as officials discussed the potential for Flint to reconnect to the Detroit Water and Sewerage Department. Recent testing and studies show lead levels have been rising -- both in water and children's blood.

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Pastors involved with the giveaway of the filters, which were designed to remove total trihalomethanes (TTHM) as well as lead from water, said they accepted the condition that they not discuss the state's role in securing the equipment, said the Rev. Allen Overton.

Overton and the Rev. Alfred Harris said they thought the arrangement was odd, but did not want to jeopardize receiving the water filters, which Flint residents waited in line for and which were given away in just three hours.

"If the water was OK, why would the governor work with someone to provide the filters?" Harris said Tuesday. "I think the state working with the private donor is an admission (that) the people needed some help."

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"We are talking with other businesses and groups that might be able to expand the (filter) effort," Murray's email says.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

To: Beckmann, Ronna Erin[beckmann.ronna@epa.gov]; Deamer, Eileen[deamer.eileen@epa.gov]
From: Fortin, Denise
Sent: Tue 9/29/2015 9:02:57 PM
Subject: FW: More Flint clips

FYI

Denise Fortin

Congressional Liaison

Office of Regional Administrator

U.S. Environmental Protection Agency

312-886-9859

From: Kelley, Jeff
Sent: Tuesday, September 29, 2015 3:48 PM
To: Hedman, Susan; Kaplan, Robert; Hyde, Tinka
Cc: Rowan, Anne; Fortin, Denise; Harrison, Melissa; Cassell, Peter
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<http://www.freep.com/story/news/local/michigan/2015/09/29/snyder-state-action-coming-flint-water/73033462/>

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Paul Egan, Detroit Free Press Lansing Bureau
4:34 p.m. EDT September 29, 2015

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Mona Hanna-Attisha, a researcher at Flint's Hurley Medical Center, analyzed blood-lead level information collected as part of a routine screening process, and found that the percentage of Flint children with elevated blood-lead levels has increased significantly since the city started pumping water from the Flint River in April 2014. In some ZIP codes — those considered most at-risk — the percentage of kids affected by lead has doubled.

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Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

To: Lopez-Carbo, Maria[Lopez-Carbo.Maria@epa.gov]
Cc: Moriarty, Edward[Moriarty.EdwardJ@epa.gov]; Banks, Victoria[Banks.Victoria@epa.gov]
From: Viveiros, Edward
Sent: Tue 9/29/2015 8:41:43 PM
Subject: RE: Flint happenings

Acknowledging receipt. Confirming it's been done.

Edward Viveiros

Environmental Engineer

OW/OGWDW/DWPD/PB

U.S. Environmental Protection Agency

viveiros.edward@epa.gov

(202) 564-4946

From: Lopez-Carbo, Maria
Sent: Tuesday, September 29, 2015 12:52 PM
To: Viveiros, Edward
Cc: Moriarty, Edward; Banks, Victoria
Subject: FW: Flint happenings

Eddie – please include the information below in your write up.

Thanks.

Maria

P.S. – Ed can you help Eddie start regional/monthly LCR meetings? Not sure if these have been happening.

Thanks.

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

Thanks Arnita. I had not seen this. Please let me know if you need any assistance from us.

Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

FYI! Sorry if you already have this but just making sure.

Thank you!

Sent from my iPhone

Begin forwarded message:

From: "Rupp, Mark" <Rupp.Mark@epa.gov>
Date: September 29, 2015 at 12:33:36 PM EDT
To: "Hannon, Arnita" <Hannon.Arnita@epa.gov>, "Barbery, Andrea" <Barbery.Andrea@epa.gov>, "Cook-Shyovitz, Becky" <Cook-Shyovitz.Bekky@epa.gov>, "Bowles, Jack" <Bowles.Jack@epa.gov>
Subject: Flint happenings

The State and City are pulling together a "ten point plan" and they have asked for EPA's help to work out the details. The goal is to have a press conference on Thursday or Friday to announce the following:

1. Bottled water and pre-mixed formula for households with infants and children (the Michigan Department of Health and Human Services is working with USDA to do this through the WIC program)
2. Lead filters for households with infants and children (a group of nonprofits has pledged \$1 million for this purpose and will be working with the Meijer discount chain to obtain filters at wholesale.)
3. Water will be tested for lead in all Flint schools. (MDEQ)
4. Water will be tested for lead in all Flint households with lead service lines that have infants and children. (MDEQ)
5. All other Flint households can request a free water test. (MDEQ)
6. The State will step up health advisory/public education efforts to encourage flushing and use of filters (MDEQ/MDHHS)
7. MDEQ will establish an end date for Flint to complete implementation of fully-optimized corrosion control – and move up the start date to commence implementation of corrosion control. (The current start date is 1/16)
8. MDEQ will expand the City's Technical Advisory Committee by adding several University of Michigan scientists and will immediately convene the committee. (This committee includes ORD scientists from the Cincinnati Lab)
9. The State of Michigan's "Chief Medical Executive" will oversee a review of data that has been collected on Flint children's blood lead levels.

10. MDEQ will help Flint finance accelerated replacement of lead service lines (using SRF)

The Mayor and Director Wyant have asked Susan to go to Flint to participate in the press conference. The Mayor has also asked Susan to meet with a group of faith leaders who have been very vocal on this issue: <http://www.abc12.com/home/headlines/Rally-held--329788391.html>

To: Beckmann, Ronna Erin[beckmann.ronna@epa.gov]; Deamer, Eileen[deamer.eileen@epa.gov]
From: Fortin, Denise
Sent: Tue 9/29/2015 9:02:57 PM
Subject: FW: More Flint clips

FYI

Denise Fortin

Congressional Liaison

Office of Regional Administrator

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From: Kelley, Jeff
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Cc: Rowan, Anne; Fortin, Denise; Harrison, Melissa; Cassell, Peter
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Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

To: Kelley, Jeff[kelley.jeff@epa.gov]
Cc: Hedman, Susan[hedman.susan@epa.gov]; Kaplan, Robert[kaplan.robert@epa.gov]
From: Jencius, Morgan
Sent: Wed 9/30/2015 1:13:54 AM
Subject: Fwd: From NPR News - High Lead in Flint, MI kids after city switches water source

FYI

Date: September 29, 2015

Subject: From NPR News - High Lead in Flint, MI kids after city switches water source

This article was posted to NPR website tonight. It mentions the draft EPA R5 report (from June 24, 2015) and includes MDEQ quotes that "this was done by a rogue [EPA] employee" and to "wait until final report comes out."

High Lead Levels In Michigan Kids After City Switches Water Source
<http://n.pr/1Gf3MbA>

To: Jencius, Morgan[jencius.morgan@epa.gov]
Cc: Hedman, Susan[hedman.susan@epa.gov]; Kaplan, Robert[kaplan.robert@epa.gov]
From: Kelley, Jeff
Sent: Wed 9/30/2015 2:36:06 AM
Subject: Re: Fwd: From NPR News - High Lead in Flint, MI kids after city switches water source

Thanks.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

On Tue, Sep 29, 2015 at 6:13 PM -0700, "Jencius, Morgan" <jencius.morgan@epa.gov> wrote:

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To: Hyde, Tinka[hyde.tinka@epa.gov]
From: Henry, Timothy
Sent: Wed 9/30/2015 12:30:33 PM
Subject: Fwd: Help with the All Ages Lead Model?

FYI

Tim Henry
Deputy Director, Water Division
US EPA Region V
312-886-6107 (office)
312-296-0690 (cell)

Sent from my iPhone

Begin forwarded message:

From: "Johnson, Mark" <johnson.mark@epa.gov>
Date: September 29, 2015 at 17:32:16 CDT
To: "Braverman, Carole" <braverman.carole@epa.gov>, "Samanic, Claudine" <Samanic.Claudine@epa.gov>
Cc: "Poy, Thomas" <poy.thomas@epa.gov>, "Henry, Timothy" <henry.timothy@epa.gov>
Subject: RE: Help with the All Ages Lead Model?

Carole

We should be clear that EPA has not asked ATSDR to review the blood lead data for the City of Flint. The State of Michigan is the lead for investigation and communication with the Flint situation. The reason we had made an inquiry regarding the All Ages Lead Model (AALM) was to test its accuracy in predicting blood lead levels. Since there is both water data and blood lead data for the same population, we were considering using the AALM to determine how well the predicted levels compared to the actual measured levels.

Apparently is not easy to arrange for the installation of the software to run the All Ages Lead Model, which is still being beta tested. The site license for the ACSL is held in ORD by Paul Schlosser. In anticipation that the regions may ultimately be using the AALM, EPA-R5 may want to consider contacting ORD to serve as a beta tester for the software.

Mark

Mark D. Johnson, PhD, DABT

Regional Director/Toxicologist

Agency for Toxic Substances and Disease Registry (ATSDR)

77 W. Jackson Blvd.

Chicago, IL 60604

Office: 312-353-3436

Email: mdjohnson@cdc.gov

From: Braverman, Carole

Sent: Tuesday, September 29, 2015 1:47 PM

To: Samanic, Claudine

Cc: Johnson, Mark; Poy, Thomas; Henry, Timothy

Subject: RE: Help with the All Ages Lead Model?

I will get on this and I shared your message with WD. R5 and the City of Flint have requested ORD help in optimizing the water system. Perhaps we should all talk? I'm running a webinar starting in 15 minutes so more later.

From: Samanic, Claudine

Sent: Tuesday, September 29, 2015 12:51 PM

To: Braverman, Carole

Cc: Johnson, Mark

Subject: Help with the All Ages Lead Model?

Hi Carole,

We are writing to ask for some help with something. I'm not sure if you are keeping up with what's been happening in Flint, MI with the increasing water lead levels due to a switch in water source for the town? Our Michigan State Health Dept partners are going through a bit of a snag because the Lead Program folks initially ran a comparison of pre- and post- water source switch blood lead levels in children ages 0-16 and reported no significant increase in the proportion of elevated BLs. However, folks at the Hurley Medical Center (where many blood leads are analyzed) ran their own comparisons restricting to high water lead zip codes in Flint, and looking first at children 0-5, then at babies < 15 months and found a significant doubling of the % >5 ug/L (attached is a scanned page of some of their results – excuse my scribble – I ran my own test of proportions to verify the p-value). The water lead levels are about 11 now – not yet at 15 but perhaps rising. The issue has become quite political and it seems USEPA will be pulled in somehow.

We'd like to provide our State Health partners with some support. Mark wanted to plug in some of the site-specific parameters into the IEUBK model, and do the same with the new All Ages Lead Model (since the whole population of Flint is affected by this). We've inquired about obtaining a copy of the that program, but it seems you also need a program called ACSL to run the AALM, and we do not have an ACSL license (please see below). EPA has a corporate license, and the AAML is currently being beta tested. Is there any possibility that one of the R5 EPA risk assessors is already beta testing this program, or would be willing to load it so we could use it in support of the lead issue in Flint?

Thank you,

Claudine

P.S. Thanks again for correcting my last name on the Epi talk announcement!

Claudine Samanic, MSPH, PhD

Commander, USPHS Commissioned Corps

ATSDR Region 5

77 W Jackson Blvd

Chicago, IL 60604

(312) 353-4766

csamanic@cdc.gov

From: McLanahan, Eva (ATSDR/DCHI/OD) [<mailto:yjp8@cdc.gov>]

Sent: Tuesday, September 29, 2015 10:31 AM

To: Johnson, Mark

Cc: Samanic, Claudine

Subject: RE: Access to All Ages Model

Hi Mark,

Glad you talked with Jim – he's a great guy. I like him very much!

In order to run the AALM you do need acsl. (www.acslx.com). The trouble here will be cost. It cost several hundred dollars per license; however, at EPA we had a corporate license so we could install on as many computers as we wanted, but only a certain few would have tech support. If AALM becomes the mainstream at ATSDR, we'd definitely be better off going that way.

Is there something you were thinking of doing with the AALM that I could help you with?
Are you interested in joining our AALM validation team, etc.?

V/r,

Eva

To: Denton, Loren[denton.loren@epa.gov]; Pollins, Mark[Pollins.Mark@epa.gov]
From: King, Carol
Sent: Wed 9/30/2015 12:30:10 PM
Subject: More on Flint

FYI

From: Marc Edwards [mailto:edwardsm@vt.edu]
Sent: Tuesday, September 29, 2015 11:34 PM
To: Schock, Michael; Lytle, Darren; Burneson, Eric; demarco.carol@epa.gov; Murphy, Thomas; Shoven, Heather; Deltoral, Miguel
Subject: WHAT ARE YOU GUYS DOING DOWN THERE?

Wurfel says to NPR you have to poison kids for a year before implementing corrosion control, and to determine the right orthophosphate dose?

Eric, is this going to be part of the new improved LCR? And is EPA going to hand Miguel's draft memo to Wurfel, to finalize and/or approve? Wurfel PROMISES THAT the final memo is going to tell a different story. And Miguel is now a ROGUE EPA employee?

EPA Office of Water and EPA Region 5 are a national embarrassment. You have a city in crisis, kids with elevated blood lead, and NO CORROSION CONTROL PLAN FOR 16 MONTHS, and yet you sit there and do absolutely nothing.

Marc

<http://www.npr.org/2015/09/29/444497051/high-lead-levels-in-michigan-kids-after-city-switches-water-source>

A [draft report from the EPA](#) that was obtained by the ACLU of Michigan also takes the city and state to task.

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But officials with the Michigan Department of Environmental Quality dispute the findings of the draft report. MDEQ spokesman Brad Wurfel says the

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To: Kelley, Jeff[kelley.jeff@epa.gov]
From: Deamer, Eileen
Sent: Wed 9/30/2015 12:50:41 PM
Subject: RE: Flint water clips for the morning of Sept. 30

Lets go!!!

From: Kelley, Jeff
Sent: Wednesday, September 30, 2015 7:49 AM
To: Hedman, Susan; Kaplan, Robert; Hyde, Tinka
Cc: Fortin, Denise; Deamer, Eileen; Rowan, Anne; Cassell, Peter; Beckmann, Ronna Erin; Harrison, Melissa; Arcaute, Francisco; Poy, Thomas
Subject: Flint water clips for the morning of Sept. 30

This morning's clips:

- [REDACTED] High Lead Levels In Michigan Kids After City Switches Water Source (NPR)
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High Lead Levels In Michigan Kids After City Switches Water Source

NPR All Things Considered

September 29, 2015 6:01 PM ET

Doctors are finding elevated levels of lead in the children in Flint, Mich., and local tap water is the likely cause.

That's the latest alarming news to come out of the city, which switched its water source about a year and a half ago.

A pediatrician with Hurley Medical Center analyzed lead levels of hundreds of children. She compared blood tests before and after April 2014. That's when Flint, unable to come to an agreement on a short-term contract with Detroit, quit buying water from its system, and signed on with a new system that will draw water from Lake Huron.

But that system won't be online until next year. So in the interim, with assurances from the state that it would be safe, the city decided to pump water from the Flint River.

Dr. Mona Hanna-Attisha's research found that the percentage of Flint children 5 years and younger with elevated lead levels nearly doubled after the switch, from 2.1 percent to 4 percent.

"My research shows that lead levels have gone up," Hanna-Attisha says. "I cannot say it's from the water. But that's, you know, the thing that has happened."

A Cascade Of Problems

The news did not surprise Lee Anne Walters. She suspected the water had something to do with health problems in her 4-year-old son, Gavin.

"I kept talking to the doctors, trying to figure out why he wasn't growing," she says. "He was 27 pounds at 4 years old. His hair was thinning, breaking out in rashes."

Complaints about foul-smelling, discolored water began soon after the city started drawing water from the Flint River. In the summer of 2014, the city issued a notice for residents to boil their water because of E. coli contamination.

Then the city was found to be in violation of the Safe Drinking Water Act because of high levels of a disinfectant byproduct called total trihalomethanes — an unintended consequence from all the chlorine the city had to use to kill the E. coli.

Walters says her whole family broke out in rashes, and they stopped drinking the water in December.

Then, in February of this year, the city tested her water for lead.

"And I got a frantic phone call from the water department telling me to please make sure my kids didn't drink the water, don't mix their juice with it, because they had never seen a number that high for lead," she says.

After that, Walters decided to take Gavin in to be tested for lead.

He'd been tested before the city switched its water source. At that time, he had a level of 2 micrograms of lead per deciliter of blood. After the switch, his level was 6.5.

The Centers for Disease Control and Prevention says a level of 5 is considered "much higher" than that found in most children. It also says there is no safe level of lead exposure — and the effects, like lower IQ, are irreversible.

A Failure Of Government?

The day after Hanna-Attisha released her findings, the city put out a lead advisory, urging people to flush their pipes, install inexpensive filters, and use cold water for mixing baby formula.

"As a father, I want every family and household in the city of Flint to be safe and secure," Mayor Dayne Walling said at a press conference to announce the advisory.

Over the summer, researchers from Virginia Tech found that Flint River water is highly corrosive. That means when it comes into contact with lead from service lines, household pipes or solder, it eats away at the lead and sends it right to people's faucets.

City officials and state regulators say they're now putting together a corrosion control plan to reduce lead exposure.

"Flint is the only city in America that I'm aware of that does not have a corrosion control plan," said Virginia Tech's Marc Edwards, who led the research.

Edwards also uncovered lead contamination in Washington, D.C. He says Flint's lead levels are not as high, and the exposure period is not as long as it was in that city. But he has some harsh criticism of city and state officials for how they've handled the Flint situation.

"It was clearly a failure of government agencies to do their job to protect the public," says Edwards, citing the absence of a corrosion control plan from the outset.

A draft report from the EPA that was obtained by the ACLU of Michigan also takes the city and state to task.

"Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to control lead and copper levels in the drinking water," the report read, adding that the treatment was discontinued after the switch to Flint River water.

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An announcement about the corrosion control plan is expected soon. Meanwhile, city officials are showing increasing interest in returning to Detroit's water system — something that even a few days ago they dismissed as economically unfeasible for the cash-strapped city.

Whatever the solution, residents like Lee Anne Walters say they hope the city can reach one soon.

"I want them to take responsibility," Walters says. "I want them to quit poisoning their citizens."

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Report: Using Flint River proving costly to city's water system

Steve Carmody, Michigan Radio • 28 minutes ago

A new report (<http://flintwaterstudy.org/>) estimates it will cost the city of Flint \$1.5 billion to repair the damage done since the switch to the Flint River as a water source.

Researchers from Virginia Tech based their estimate on the tests of the corrosiveness of the Flint River.

The researchers say the corrosiveness is "eating away" lead pipes, aging the system by more than 11.5 years in just the last 16 months.

City and state leaders are talking about taking steps to fix Flint's water problems.

One option on the table might be returning to Detroit water. But Flint will probably need help from the state to do that.

<http://www.detroitnews.com/story/news/politics/2015/09/29/govs-office-helps-get-water-filters-flint-families/73055442/>

Gov's office helps get water filters to Flint families

Chad Livengood, Detroit News Lansing Bureau 6:30 p.m. EDT September 29, 2015

Gov. Rick Snyder's office quietly orchestrated the distribution of 1,500 water filters to Flint families this summer while insisting the city's water is safe to drink.

In July, Snyder's office worked with an anonymous corporate donor to distribute the faucet filters through a group of Flint pastors, Snyder spokesman Dave Murray said Tuesday. It was unclear who initiated the plan — the donor, the governor's office or someone else.

"We worked with the pastors' group to distribute the filters and asked that members respect the donor's wishes not to be identified," Murray said. "We told the group that we're not looking for credit and appreciated the pastors' efforts in working with the community on this effort."

Snyder's office acknowledged its role Tuesday in handing out the free filters to Flint residents while pressure is mounting on state agencies to fix Flint's troubled water system. A study last week showed elevated levels of lead in the blood of Flint children younger than 5.

"People have complained about the color and the odor, and faucet filters will help with those challenges as well as improving water quality overall," Murray said.

The governor's office is in discussions with "a number of groups that are interested" in distributing more faucet filters, Murray said.

The water filters can remove chemical compounds as well as lead, a toxic metal that can hinder brain development in young children even at low levels, according to the U.S. Environmental Protection Agency.

Flint residents began complaining about the taste and color of the city's water in April 2014 when the city halted a half-century of purchasing water from the Detroit Water and Sewerage Department and started pumping drinking water from the Flint River.

River water is a trickier source for municipal cleaning and distribution than Lake Huron, where the Detroit system gets its water. The deeper, still waters of the lake contain few of the organic materials found in river water and require a different treatment protocol.

The Flint River is serving as a temporary water source until the city can connect to a new regional water pipeline from Lake Huron that won't be ready until late 2016.

A year ago, General Motors' Flint Engine Operations plant stopped using the city's river because of concerns about corrosive effects and now gets its water from Flint Township.

Last week, pediatricians at Hurley Medical Center released a study of blood levels of Flint children younger than 5 between January 2013 and September 2013 when Flint used Detroit's water and January and September of this year when residents drank Flint River water.

But Flint's water tested below the federal limit for lead in the Michigan Department of Environmental Quality's 2014 testing, DEQ spokesman Brad Wurfel said Tuesday.

Still, the state agency is working closely to address a “crisis of confidence” among Flint residents, Wurfel said. “Even though it is meeting standards, there is a significant concern in the city of Flint,” he said.

Senate Minority Leader Jim Ananich, D-Flint, has urged Snyder to seek emergency funding to distribute faucet filters to about 15,000 Flint homes.

Ananich also wants the governor to get Flint reconnected to Detroit’s water system.

In January, the Detroit water system offered to reconnect water service to Flint because of the complaints. Flint officials rebuffed the offer, saying an analysis concluded it would cost Flint an additional \$12 million per year or more.

Snyder has been non-committal to Ananich’s proposals, but said Tuesday his administration will be taking action soon.

“I have a large team of people working on the Flint water issue as we speak,” Snyder said after an event in Lansing. “What I would say is during the course of the week or early next week, hopefully we’ll be coming out with more public action steps ... and more action steps to take in the future.

“I take it as a serious issue, the Flint water situation. Lead’s a serious issue, so we’re spending a lot of time and effort looking at that and trying to partner with the people in Flint on that issue.”

<http://michiganradio.org/post/flint-mayor-state-approve-plan-fast-humanly-possible-help-keep-lead-out-water#stream/0>

Flint mayor to state: Approve plan “as fast as humanly possible” to help keep lead out of water

Lindsey Smith , Michigan Radio • 14 hours ago

Flint hasn't been using any corrosion-control method since it switched from Detroit's water system in April 2014. Corrosion-control treatment helps keep lead out of drinking water. Since the switch, more kids are showing up with elevated levels of lead in their blood.

Flint Mayor Dayne Walling says he wants to put corrosion-control treatment back in place, but he needs state approval first. The state says it's going to take a little while to implement.

“One of my requests to (Michigan's) Department of Environmental Quality director is that (approval) be accelerated as fast as humanly possible,” Walling said.

“Whatever decisions are coming next, we need that corrosion control in the water treatment process that we have now,” he said.

Walling was a guest today on Stateside with Cynthia Canty. (Listen to Flint Mayor Dayne Walling on Stateside: <http://cpa.ds.npr.org/michigan/audio/2015/09/20150929-SS-FLINT-WATER.mp3>)

Flint spokesman Jason Lorenz says MDEQ made the recommendation to put corrosion-control treatment into the water supply last month. But, he says, it needs MDEQ Director Dan Wyant's official approval.

There's been some debate over whether Flint should have had corrosion control in place the entire time.

MDEQ officials have argued to the U.S. Environmental Protection Agency that corrosion control is not technically required yet, because the Flint River is a new water source.

"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, MDEQ spokesman Brad Wurfel said. He says that's the only way to know what corrosion-control treatment to use.

That period of study was to be completed by June 30.

As the DEQ reads federal regulations, Flint technically has up to two years after the study to install treatment. But Wurfel says an announcement on the state's decision will come by the end of this week, and "the prescription for optimizing the system for corrosion control is going to be done in Flint by the end of this year."

"We have a plan to expedite this with the city ... and folks can take some comfort in that," Wurfel said.

It's not clear yet how much the treatment will cost, but Wurfel says "this won't break the bank." A state-appointed emergency manager made the interim switch to the Flint River to save the city money.

The U.S. Environmental Protection Agency has not yet answered this question: Was Flint required to have some form of corrosion-control treatment the whole time?

At face value, the EPA rules are clear, all water systems that serve more than 50,000 people must have some kind of corrosion control.

But when you switch water sources, there is apparently some room for interpretation.

In approving updates to this federal regulation in 2000, the EPA noted that “water systems need to make treatment changes, on occasion, to react to changing circumstances.”

In these cases, the rule does not “prevent a state from approving treatment changes,” but it’s not entirely clear if the state can approve having zero corrosion-control treatment.

One key section of the rule change reads:

“One commenter requested that EPA clarify in the rule language that (large water) systems are not required to have (corrosion-control treatment) physically present. EPA disagrees that this is appropriate.”

“For large water systems, (the federal rule) does not eliminate the need to have any (corrosion-control treatment) in place, unless the water system can demonstrate to the satisfaction of the State that such treatment will have no effect on reducing the levels of lead and copper at the tap ... EPA expects few, if any, large water systems can make this demonstration without (corrosion-control treatment).”

Flint residents can be sure about one thing: This period of study and approval won’t happen the next time the city switches water sources.

The city expects to stop using the Flint River when a new regional water system in Genesee County is completed, slated for the end of 2016. According the MDEQ’s Brad Wurfel, that’s because they won’t need to study the nature of the new water source – Lake Huron. Because Detroit’s water system uses water from Lake Huron, Flint will be able to use the same corrosion-control treatment it did when it was hooked up to Detroit’s system.

<http://michiganradio.org/post/have-you-missed-parts-flint-water-story-heres-quick-rundown#stream/0>

Have you missed parts of the Flint water story? Here's a quick rundown.

Michigan Radio Newsroom • Sep 25, 2015

Flint switched its drinking water source in April of 2014. The city went from Detroit water to water from the Flint River, and there have been problems ever since.

Most recently, residents have been enraged to hear about elevated lead levels in kids. At this point, Flint residents have been unsure about the safety of their water for over a year.

Here's a quick rundown of the problems some Flint residents have been complaining about.

Discoloration and smell

Water issues started right after the switch as residents complained that the new water smelled and tasted different. City officials issued boil water advisories but insisted this was not connected to the switch.

E. coli

Tests of Flint water showed high levels of bacteria, including E. coli. Residents were issued a number of boil water notices.

Chlorine

To address the increased E. coli levels, the city pumped more chlorine into the system as a disinfectant.

TTHM

In January of 2015, residents received warnings that their water didn't meet federal safety standards because tests were showing higher rates of total trihalomethane. TTHM is a byproduct of the chlorine that had been used to address earlier problems. Too much TTHM increases the risk of cancer. Average TTHM levels did not fall to acceptable levels again until late this summer.

Lead

In January 2015, the University of Michigan-Flint conducted tests of its own water. Some of their samples contained "high levels of lead." At that time, researchers said the lead levels were high in those samples because the water was spending a lot of time sitting in old pipes.

Activists started asking for courts to force the city to go back to Detroit water in April. Those requests fell short.

An EPA memo leaked in July documented "extremely high levels at one woman's home, high enough that her son got lead poisoning."

Researchers from Virginia Tech tested samples from nearly 300 Flint homes in September. Their findings showed 'seriously' high levels of lead.

On September 24, Flint pediatricians announced their findings that the percentage of Flint children with elevated blood levels has almost doubled since the water source switch.

Jeff Kelley

Director, Office of External Communications

U.S. EPA Region 5

ph: 312-353-1159

To: Henry, Timothy[henry.timothy@epa.gov]; Hyde, Tinka[hyde.tinka@epa.gov]
From: Poy, Thomas
Sent: Wed 9/30/2015 1:07:55 PM
Subject: FW: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

The latest from Marc Edwards.

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

From: Shoven, Heather
Sent: Wednesday, September 30, 2015 7:31 AM
To: Damato, Nicholas; Bair, Rita; Poy, Thomas; Porter, Andrea; Crooks, Jennifer; King, Carol; Darman, Leslie; Glowacki, Joanna
Cc: Deltoral, Miguel
Subject: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

From: Marc Edwards [<mailto:edwardsm@vt.edu>]
Sent: Tuesday, September 29, 2015 10:34 PM
To: Schock, Michael; Lytle, Darren; Burneson, Eric; demarco.carol@epa.gov; Murphy, Thomas; Shoven, Heather; Deltoral, Miguel
Subject: WHAT ARE YOU GUYS DOING DOWN THERE?

Wurfel says to NPR you have to poison kids for a year before implementing corrosion control, and to determine the right orthophosphate dose?

Eric, is this going to be part of the new improved LCR? And is EPA going to hand Miguel's draft memo to Wurfel, to finalize and/or approve? Wurfel PROMISES THAT the final memo is going to tell a different story. And Miguel is now a ROGUE EPA employee?

EPA Office of Water and EPA Region 5 are a national embarrassment. You have a city in crisis, kids with elevated blood lead, and NO CORROSION CONTROL PLAN FOR 16 MONTHS, and yet you sit there and do absolutely nothing.

Marc

<http://www.npr.org/2015/09/29/444497051/high-lead-levels-in-michigan-kids-after-city-switches-water-source>

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To: Davis, CatherineM[Davis.CatherineM@epa.gov]
Cc: Beckmann, Ronna Erin[beckmann.ronna@epa.gov]
From: Fortin, Denise
Sent: Wed 9/30/2015 1:53:35 PM
Subject: Fwd: Flint water clips for the morning of Sept. 30

FYI - the story aired on NPR yesterday

Sent from my iPhone

Begin forwarded message:

From: "Kelley, Jeff" <kelley.jeff@epa.gov>
Date: September 30, 2015 at 7:49:25 AM CDT
To: "Hedman, Susan" <hedman.susan@epa.gov>, "Kaplan, Robert" <kaplan.robert@epa.gov>, "Hyde, Tinka" <hyde.tinka@epa.gov>
Cc: "Fortin, Denise" <Fortin.Denise@epa.gov>, "Deamer, Eileen" <deamer.eileen@epa.gov>, "Rowan, Anne" <rowan.anne@epa.gov>, "Cassell, Peter" <cassell.peter@epa.gov>, "Beckmann, Ronna Erin" <beckmann.ronna@epa.gov>, "Harrison, Melissa" <Harrison.Melissa@epa.gov>, "Arcaute, Francisco" <Arcaute.Francisco@epa.gov>, "Poy, Thomas" <poy.thomas@epa.gov>
Subject: Flint water clips for the morning of Sept. 30

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River water is a trickier source for municipal cleaning and distribution than Lake Huron, where the Detroit system gets its water. The deeper, still waters of the lake contain few of the organic materials found in river water and require a different treatment protocol.

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Senate Minority Leader Jim Ananich, D-Flint, has urged Snyder to seek emergency funding to distribute faucet filters to about 15,000 Flint homes.

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Snyder has been non-committal to Ananich's proposals, but said Tuesday his administration will be taking action soon.

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Snyder said after an event in Lansing. “What I would say is during the course of the week or early next week, hopefully we’ll be coming out with more public action steps ... and more action steps to take in the future.

“I take it as a serious issue, the Flint water situation. Lead’s a serious issue, so we’re spending a lot of time and effort looking at that and trying to partner with the people in Flint on that issue.”

<http://michiganradio.org/post/flint-mayor-state-approve-plan-fast-humanly-possible-help-keep-lead-out-water#stream/0>

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Lindsey Smith , Michigan Radio • 14 hours ago

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“One of my requests to (Michigan’s) Department of Environmental Quality director is that (approval) be accelerated as fast as humanly possible,” Walling said.

"Whatever decisions are coming next, we need that corrosion control in the water treatment process that we have now," he said.

Walling was a guest today on Stateside with Cynthia Canty. (Listen to Flint Mayor Dayne Walling on Stateside:
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There's been some debate over whether Flint should have had corrosion control in place the entire time.

MDEQ officials have argued to the U.S. Environmental Protection Agency that corrosion control is not technically required yet, because the Flint River is a new water source.

"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, MDEQ spokesman Brad Wurfel said. He says that's the only way to know what corrosion-control treatment to use.

That period of study was to be completed by June 30.

As the DEQ reads federal regulations, Flint technically has up to two years after the study to install treatment. But Wurfel says an announcement on the state's decision will come by the end of this week, and "the prescription for optimizing the system for corrosion control is going to be done in Flint by the end of this year."

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The U.S. Environmental Protection Agency has not yet answered this question: Was Flint required to have some form of corrosion-control treatment the whole time?

At face value, the EPA rules are clear, all water systems that serve more than 50,000 people must have some kind of corrosion control.

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Flint residents can be sure about one thing: This period of study and approval won't happen the next time the city switches water sources.

The city expects to stop using the Flint River when a new regional water system in Genesee County is completed, slated for the end of 2016. According the MDEQ's Brad Wurfel, that's because they won't need to study the nature of the new water source – Lake Huron. Because Detroit's water system uses water from Lake Huron, Flint will be able to use the same corrosion-control treatment it did when it was hooked up to Detroit's system.

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Michigan Radio Newsroom • Sep 25, 2015

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Most recently, residents have been enraged to hear about elevated lead levels in

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Here's a quick rundown of the problems some Flint residents have been complaining about.

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Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

To: Fortin, Denise[Fortin.Denise@epa.gov]
From: Davis, CatherineM
Sent: Wed 9/30/2015 1:55:15 PM
Subject: Re: Flint water clips for the morning of Sept. 30

Thanks!

Cathy Davis
US Environmental Protection Agency
Office of Congressional and
Intergovernmental Relations
(202) 564-2703 (desk)
(202) 573-1704 (cell)

On Sep 30, 2015, at 9:53 AM, Fortin, Denise <Fortin.Denise@epa.gov> wrote:

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Sent from my iPhone

Begin forwarded message:

From: "Kelley, Jeff" <kelley.jeff@epa.gov>
Date: September 30, 2015 at 7:49:25 AM CDT
To: "Hedman, Susan" <hedman.susan@epa.gov>, "Kaplan, Robert" <kaplan.robert@epa.gov>, "Hyde, Tinka" <hyde.tinka@epa.gov>
Cc: "Fortin, Denise" <Fortin.Denise@epa.gov>, "Deamer, Eileen" <deamer.eileen@epa.gov>, "Rowan, Anne" <rowan.anne@epa.gov>, "Cassell, Peter" <cassell.peter@epa.gov>, "Beckmann, Ronna Erin" <beckmann.ronna@epa.gov>, "Harrison, Melissa" <Harrison.Melissa@epa.gov>, "Arcaute, Francisco" <Arcaute.Francisco@epa.gov>, "Poy, Thomas" <poy.thomas@epa.gov>
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- High Lead Levels In Michigan Kids After City Switches Water Source (NPR)
- Report: Using Flint River proving costly to city's water system (Michigan Radio)

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 - [REDACTED] Flint mayor to state: Approve plan "as fast as humanly possible" to help keep lead out of water (Michigan Radio)
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<http://www.npr.org/2015/09/29/444497051/high-lead-levels-in-michigan-kids-after-city-switches-water-source>

High Lead Levels In Michigan Kids After City Switches Water Source

NPR All Things Considered

September 29, 2015 6:01 PM ET

Doctors are finding elevated levels of lead in the children in Flint, Mich., and local tap water is the likely cause.

That's the latest alarming news to come out of the city, which switched its water source about a year and a half ago.

A pediatrician with Hurley Medical Center analyzed lead levels of hundreds of children. She compared blood tests before and after April 2014. That's when Flint, unable to come to an agreement on a short-term contract with Detroit, quit buying water from its system, and signed on with a new system that will draw water from Lake Huron.

But that system won't be online until next year. So in the interim, with assurances from the state that it would be safe, the city decided to pump water from the Flint River.

Dr. Mona Hanna-Attisha's research found that the percentage of Flint children 5 years and younger with elevated lead levels nearly doubled after the switch, from 2.1 percent to 4 percent.

"My research shows that lead levels have gone up," Hanna-Attisha says. "I cannot say it's from the water. But that's, you know, the thing that has happened."

A Cascade Of Problems

The news did not surprise Lee Anne Walters. She suspected the water had something to do with health problems in her 4-year-old son, Gavin.

"I kept talking to the doctors, trying to figure out why he wasn't growing," she says. "He was 27 pounds at 4 years old. His hair was thinning, breaking out in rashes."

Complaints about foul-smelling, discolored water began soon after the city started drawing water from the Flint River. In the summer of 2014, the city issued a notice for residents to boil their water because of E. coli contamination.

Then the city was found to be in violation of the Safe Drinking Water Act because of high levels of a disinfectant byproduct called total trihalomethanes — an unintended consequence from all the chlorine the city had to use to kill the E. coli.

Walters says her whole family broke out in rashes, and they stopped drinking the water in December.

Then, in February of this year, the city tested her water for lead.

"And I got a frantic phone call from the water department telling me to please make sure my kids didn't drink the water, don't mix their juice with it, because they had never seen a number that high for lead," she says.

After that, Walters decided to take Gavin in to be tested for lead.

He'd been tested before the city switched its water source. At that time, he had a level of 2 micrograms of lead per deciliter of blood. After the switch, his level was 6.5.

The Centers for Disease Control and Prevention says a level of 5 is considered "much higher" than that found in most children. It also says there is no safe level of lead exposure — and the effects, like lower IQ, are irreversible.

A Failure Of Government?

The day after Hanna-Attisha released her findings, the city put out a lead advisory, urging people to flush their pipes, install inexpensive filters, and use cold water for mixing baby formula.

"As a father, I want every family and household in the city of Flint to be safe and secure," Mayor Dayne Walling said at a press conference to announce the advisory.

Over the summer, researchers from Virginia Tech found that Flint River water is highly corrosive. That means when it comes into contact with lead from service lines, household pipes or solder, it eats away at the lead and sends it right to people's faucets.

City officials and state regulators say they're now putting together a corrosion control plan to reduce lead exposure.

"Flint is the only city in America that I'm aware of that does not have a corrosion control plan," said Virginia Tech's Marc Edwards, who led the research.

Edwards also uncovered lead contamination in Washington, D.C. He says Flint's lead levels are not as high, and the exposure period is not as long as it was in that city. But he has some harsh criticism of city and state officials for how they've handled the Flint situation.

"It was clearly a failure of government agencies to do their job to protect the public," says Edwards, citing the absence of a corrosion control plan from the outset.

A draft report from the EPA that was obtained by the ACLU of Michigan also takes the city and state to task.

"Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to control lead and copper levels in the drinking water," the report read, adding that the treatment was discontinued after the switch to Flint River water.

"In accordance with the Lead and Copper Rule (LCR), all large systems ... are required to install and maintain corrosion control treatment for lead and copper. In the absence of any corrosion control treatment, lead levels in drinking water can be expected to increase," the report continued.

A Solution May Be Near

But officials with the Michigan Department of Environmental Quality dispute the findings of the draft report. MDEQ spokesman Brad Wurfel says the report was the work of a "rogue employee," and promised the final report — not yet released — would tell a much different story.

"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, Wurfel says, adding that's the only way to know how much phosphate to add to the water.

An announcement about the corrosion control plan is expected soon. Meanwhile, city officials are showing increasing interest in returning to Detroit's water system — something that even a few days ago they dismissed as economically unfeasible for the cash-strapped city.

Whatever the solution, residents like Lee Anne Walters say they hope the city can reach one soon.

"I want them to take responsibility," Walters says. "I want them to quit poisoning their citizens."

<http://michiganradio.org/post/report-using-flint-river-proving-costly-citys-water-system#stream/0>

Report: Using Flint River proving costly to city's water system

Steve Carmody, Michigan Radio • 28 minutes ago

A new report (<http://flintwaterstudy.org/>) estimates it will cost the city of Flint \$1.5 billion to repair the damage done since the switch to the Flint River as a water source.

Researchers from Virginia Tech based their estimate on the tests of the corrosiveness of the Flint River.

The researchers say the corrosiveness is “eating away” lead pipes, aging the system by more than 11.5 years in just the last 16 months.

City and state leaders are talking about taking steps to fix Flint’s water problems.

One option on the table might be returning to Detroit water. But Flint will probably need help from the state to do that.

<http://www.detroitnews.com/story/news/politics/2015/09/29/govs-office-helps-get-water-filters-flint-families/73055442/>

Gov’s office helps get water filters to Flint families

Chad Livengood, Detroit News Lansing Bureau 6:30 p.m. EDT September 29, 2015

Gov. Rick Snyder's office quietly orchestrated the distribution of 1,500 water filters to Flint families this summer while insisting the city's water is safe to drink.

In July, Snyder's office worked with an anonymous corporate donor to distribute the faucet filters through a group of Flint pastors, Snyder spokesman Dave Murray said Tuesday. It was unclear who initiated the plan — the donor, the governor's office or someone else.

"We worked with the pastors' group to distribute the filters and asked that members respect the donor's wishes not to be identified," Murray said. "We told the group that we're not looking for credit and appreciated the pastors' efforts in working with the community on this effort."

Snyder's office acknowledged its role Tuesday in handing out the free filters to Flint residents while pressure is mounting on state agencies to fix Flint's troubled water system. A study last week showed elevated levels of lead in the blood of Flint children younger than 5.

"People have complained about the color and the odor, and faucet filters will help with those challenges as well as improving water quality overall," Murray said.

The governor's office is in discussions with "a number of groups that are interested" in distributing more faucet filters, Murray said.

The water filters can remove chemical compounds as well as lead, a toxic metal that can hinder brain development in young children even at low levels, according to the U.S. Environmental Protection Agency.

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Lindsey Smith , Michigan Radio • 14 hours ago

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Director, Office of External Communications

U.S. EPA Region 5

ph: 312-353-1159

To: Borum, Denis[Borum.Denis@epa.gov]; Kaiser, Sven-Erik[Kaiser.Sven-Erik@epa.gov]; Asher, Jonathan[Asher.Jonathan@epa.gov]
From: Davis, CatherineM
Sent: Wed 9/30/2015 1:57:15 PM
Subject: Fwd: Flint water clips for the morning of Sept. 30

FYI

Cathy Davis
US Environmental Protection Agency
Office of Congressional and
Intergovernmental Relations
(202) 564-2703 (desk)
(202) 573-1704 (cell)

Begin forwarded message:

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Date: September 30, 2015 at 9:53:35 AM EDT
To: "Davis, CatherineM" <Davis.CatherineM@epa.gov>
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NPR All Things Considered

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"I kept talking to the doctors, trying to figure out why he wasn't growing," she says. "He was 27 pounds at 4 years old. His hair was thinning, breaking out in rashes."

Complaints about foul-smelling, discolored water began soon after the city started drawing water from the Flint River. In the summer of 2014, the city issued a notice for residents to boil their water because of E. coli contamination.

Then the city was found to be in violation of the Safe Drinking Water Act because of high levels of a disinfectant byproduct called total trihalomethanes — an unintended consequence from all the chlorine the city had to use to kill the E. coli.

Walters says her whole family broke out in rashes, and they stopped drinking the water in December.

Then, in February of this year, the city tested her water for lead.

"And I got a frantic phone call from the water department telling me to please make sure my kids didn't drink the water, don't mix their juice with it, because they had never seen a number that high for lead," she says.

After that, Walters decided to take Gavin in to be tested for lead.

He'd been tested before the city switched its water source. At that time, he had a level of 2 micrograms of lead per deciliter of blood. After the switch, his level was 6.5.

The Centers for Disease Control and Prevention says a level of 5 is considered "much higher" than that found in most children. It also says there is no safe level of lead exposure — and the effects, like lower IQ, are irreversible.

A Failure Of Government?

The day after Hanna-Attisha released her findings, the city put out a lead advisory, urging people to flush their pipes, install inexpensive filters, and use cold water for mixing baby formula.

"As a father, I want every family and household in the city of Flint to be safe and secure," Mayor Dayne Walling said at a press conference to announce the advisory.

Over the summer, researchers from Virginia Tech found that Flint River water is highly corrosive. That means when it comes into contact with lead from service lines, household pipes or solder, it eats away at the lead and sends it right to people's faucets.

City officials and state regulators say they're now putting together a corrosion control plan to reduce lead exposure.

"Flint is the only city in America that I'm aware of that does not have a corrosion control plan," said Virginia Tech's Marc Edwards, who led the research.

Edwards also uncovered lead contamination in Washington, D.C. He says Flint's lead levels are not as high, and the exposure period is not as long as it was in that city. But he has some harsh criticism of city and state officials for how they've handled the Flint situation.

"It was clearly a failure of government agencies to do their job to protect the public," says Edwards, citing the absence of a corrosion control plan from the outset.

A draft report from the EPA that was obtained by the ACLU of Michigan also takes the city and state to task.

"Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to

control lead and copper levels in the drinking water," the report read, adding that the treatment was discontinued after the switch to Flint River water.

"In accordance with the Lead and Copper Rule (LCR), all large systems ... are required to install and maintain corrosion control treatment for lead and copper. In the absence of any corrosion control treatment, lead levels in drinking water can be expected to increase," the report continued.

A Solution May Be Near

But officials with the Michigan Department of Environmental Quality dispute the findings of the draft report. MDEQ spokesman Brad Wurfel says the report was the work of a "rogue employee," and promised the final report — not yet released — would tell a much different story.

"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, Wurfel says, adding that's the only way to know how much phosphate to add to the water.

An announcement about the corrosion control plan is expected soon. Meanwhile, city officials are showing increasing interest in returning to Detroit's water system — something that even a few days ago they dismissed as economically unfeasible for the cash-strapped city.

Whatever the solution, residents like Lee Anne Walters say they hope the city can reach one soon.

"I want them to take responsibility," Walters says. "I want them to quit poisoning their citizens."

<http://michiganradio.org/post/report-using-flint-river-proving-costly-citys-water-system#stream/0>

Report: Using Flint River proving costly to city's water system

Steve Carmody, Michigan Radio • 28 minutes ago

A new report (<http://flintwaterstudy.org/>) estimates it will cost the city of Flint \$1.5 billion to repair the damage done since the switch to the Flint River as a water source.

Researchers from Virginia Tech based their estimate on the tests of the corrosiveness of the Flint River.

The researchers say the corrosiveness is “eating away” lead pipes, aging the system by more than 11.5 years in just the last 16 months.

City and state leaders are talking about taking steps to fix Flint’s water problems.

One option on the table might be returning to Detroit water. But Flint will probably need help from the state to do that.

<http://www.detroitnews.com/story/news/politics/2015/09/29/govs-office-helps-get-water-filters-flint-families/73055442/>

Gov's office helps get water filters to Flint families

Chad Livengood, Detroit News Lansing Bureau 6:30 p.m. EDT September 29, 2015

Gov. Rick Snyder's office quietly orchestrated the distribution of 1,500 water filters to Flint families this summer while insisting the city's water is safe to drink.

In July, Snyder's office worked with an anonymous corporate donor to distribute the faucet filters through a group of Flint pastors, Snyder spokesman Dave Murray said Tuesday. It was unclear who initiated the plan — the donor, the governor's office or someone else.

"We worked with the pastors' group to distribute the filters and asked that members respect the donor's wishes not to be identified," Murray said. "We told the group that we're not looking for credit and appreciated the pastors' efforts in working with the community on this effort."

Snyder's office acknowledged its role Tuesday in handing out the free filters to Flint residents while pressure is mounting on state agencies to fix Flint's troubled water system. A study last week showed elevated levels of lead in the blood of Flint children younger than 5.

"People have complained about the color and the odor, and faucet filters will help with those challenges as well as improving water quality overall," Murray said.

The governor's office is in discussions with "a number of groups that are interested" in distributing more faucet filters, Murray said.

The water filters can remove chemical compounds as well as lead, a toxic metal that can hinder brain development in young children even at low levels, according to the U.S. Environmental Protection Agency.

Flint residents began complaining about the taste and color of the city's water in April 2014 when the city halted a half-century of purchasing water from the Detroit Water and Sewerage Department and started pumping drinking water from the Flint River.

River water is a trickier source for municipal cleaning and distribution than Lake Huron, where the Detroit system gets its water. The deeper, still waters of the lake contain few of the organic materials found in river water and require a different treatment protocol.

The Flint River is serving as a temporary water source until the city can connect to a new regional water pipeline from Lake Huron that won't be ready until late 2016.

A year ago, General Motors' Flint Engine Operations plant stopped using the city's river because of concerns about corrosive effects and now gets its water from Flint Township.

Last week, pediatricians at Hurley Medical Center released a study of blood levels of Flint children younger than 5 between January 2013 and September 2013 when Flint used Detroit's water and January and September of this year when residents drank Flint River water.

But Flint's water tested below the federal limit for lead in the Michigan Department of Environmental Quality's 2014 testing, DEQ spokesman Brad Wurfel said Tuesday.

Still, the state agency is working closely to address a “crisis of confidence” among Flint residents, Wurfel said. “Even though it is meeting standards, there is a significant concern in the city of Flint,” he said.

Senate Minority Leader Jim Ananich, D-Flint, has urged Snyder to seek emergency funding to distribute faucet filters to about 15,000 Flint homes.

Ananich also wants the governor to get Flint reconnected to Detroit’s water system.

In January, the Detroit water system offered to reconnect water service to Flint because of the complaints. Flint officials rebuffed the offer, saying an analysis concluded it would cost Flint an additional \$12 million per year or more.

Snyder has been non-committal to Ananich’s proposals, but said Tuesday his administration will be taking action soon.

“I have a large team of people working on the Flint water issue as we speak,” Snyder said after an event in Lansing. “What I would say is during the course of the week or early next week, hopefully we’ll be coming out with more public action steps ... and more action steps to take in the future.

“I take it as a serious issue, the Flint water situation. Lead’s a serious issue, so we’re spending a lot of time and effort looking at that and trying to partner with the people in Flint on that issue.”

<http://michiganradio.org/post/flint-mayor-state-approve-plan-fast-humanly-possible-help-keep-lead-out-water#stream/0>

Flint mayor to state: Approve plan “as fast as humanly possible” to help keep lead out of water

Lindsey Smith , Michigan Radio • 14 hours ago

Flint hasn't been using any corrosion-control method since it switched from Detroit's water system in April 2014. Corrosion-control treatment helps keep lead out of drinking water. Since the switch, more kids are showing up with elevated levels of lead in their blood.

Flint Mayor Dayne Walling says he wants to put corrosion-control treatment back in place, but he needs state approval first. The state says it's going to take a little while to implement.

“One of my requests to (Michigan's) Department of Environmental Quality director is that (approval) be accelerated as fast as humanly possible,” Walling said.

“Whatever decisions are coming next, we need that corrosion control in the water treatment process that we have now,” he said.

Walling was a guest today on Stateside with Cynthia Canty. (Listen to Flint Mayor Dayne Walling on Stateside:
<http://cpa.ds.npr.org/michigan/audio/2015/09/20150929-SS-FLINT-WATER.mp3>)

Flint spokesman Jason Lorenz says MDEQ made the recommendation to put

corrosion-control treatment into the water supply last month. But, he says, it needs MDEQ Director Dan Wyant's official approval.

There's been some debate over whether Flint should have had corrosion control in place the entire time.

MDEQ officials have argued to the U.S. Environmental Protection Agency that corrosion control is not technically required yet, because the Flint River is a new water source.

"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, MDEQ spokesman Brad Wurfel said. He says that's the only way to know what corrosion-control treatment to use.

That period of study was to be completed by June 30.

As the DEQ reads federal regulations, Flint technically has up to two years after the study to install treatment. But Wurfel says an announcement on the state's decision will come by the end of this week, and "the prescription for optimizing the system for corrosion control is going to be done in Flint by the end of this year."

"We have a plan to expedite this with the city ... and folks can take some comfort in that," Wurfel said.

It's not clear yet how much the treatment will cost, but Wurfel says "this won't break the bank." A state-appointed emergency manager made the interim switch to the Flint River to save the city money.

The U.S. Environmental Protection Agency has not yet answered this question: Was Flint required to have some form of corrosion-control treatment the whole time?

At face value, the EPA rules are clear, all water systems that serve more than 50,000 people must have some kind of corrosion control.

But when you switch water sources, there is apparently some room for interpretation.

In approving updates to this federal regulation in 2000, the EPA noted that “water systems need to make treatment changes, on occasion, to react to changing circumstances.”

In these cases, the rule does not “prevent a state from approving treatment changes,” but it’s not entirely clear if the state can approve having zero corrosion-control treatment.

One key section of the rule change reads:

“One commenter requested that EPA clarify in the rule language that (large water) systems are not required to have (corrosion-control treatment) physically present. EPA disagrees that this is appropriate.”

“For large water systems, (the federal rule) does not eliminate the need to have any (corrosion-control treatment) in place, unless the water system can demonstrate to the satisfaction of the State that such treatment will have no effect on reducing the levels of lead and copper at the tap ... EPA expects few, if any, large water systems can make this demonstration without (corrosion-control treatment).”

Flint residents can be sure about one thing: This period of study and approval won't happen the next time the city switches water sources.

The city expects to stop using the Flint River when a new regional water system in Genesee County is completed, slated for the end of 2016. According to the MDEQ's Brad Wurfel, that's because they won't need to study the nature of the new water source – Lake Huron. Because Detroit's water system uses water from Lake Huron, Flint will be able to use the same corrosion-control treatment it did when it was hooked up to Detroit's system.

<http://michiganradio.org/post/have-you-missed-parts-flint-water-story-heres-quick-rundown#stream/0>

Have you missed parts of the Flint water story? Here's a quick rundown.

Michigan Radio Newsroom • Sep 25, 2015

Flint switched its drinking water source in April of 2014. The city went from Detroit water to water from the Flint River, and there have been problems ever since.

Most recently, residents have been enraged to hear about elevated lead levels in kids. At this point, Flint residents have been unsure about the safety of their water for over a year.

Here's a quick rundown of the problems some Flint residents have been complaining about.

Discoloration and smell

Water issues started right after the switch as residents complained that the new water smelled and tasted different. City officials issued boil water advisories but insisted this was not connected to the switch.

E. coli

Tests of Flint water showed high levels of bacteria, including E. coli. Residents were issued a number of boil water notices.

Chlorine

To address the increased E. coli levels, the city pumped more chlorine into the system as a disinfectant.

TTHM

In January of 2015, residents received warnings that their water didn't meet federal safety standards because tests were showing higher rates of total trihalomethane. TTHM is a byproduct of the chlorine that had been used to address earlier problems. Too much TTHM increases the risk of cancer. Average TTHM levels did not fall to acceptable levels again until late this summer.

Lead

In January 2015, the University of Michigan-Flint conducted tests of its own water. Some of their samples contained "high levels of lead." At that time, researchers said the lead levels were high in those samples because the water was spending a lot of time sitting in old pipes.

Activists started asking for courts to force the city to go back to Detroit water in April. Those requests fell short.

An EPA memo leaked in July documented "extremely high levels at one woman's home, high enough that her son got lead poisoning."

Researchers from Virginia Tech tested samples from nearly 300 Flint homes in September. Their findings showed 'seriously' high levels of lead.

On September 24, Flint pediatricians announced their findings that the percentage of Flint children with elevated blood levels has almost doubled since the water source switch.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

To: Grevatt, Peter[Grevatt.Peter@epa.gov]; Bergman, Ronald[Bergman.Ronald@epa.gov]; Lopez-Carbo, Maria[Lopez-Carbo.Maria@epa.gov]; Christ, Lisa[Christ.Lisa@epa.gov]; Clark, Becki[Clark.Becki@epa.gov]
From: Burneson, Eric
Sent: Wed 9/30/2015 3:07:09 PM
Subject: Fwd: WHAT ARE YOU GUYS DOING DOWN THERE?

Sent from my iPhone

Begin forwarded message:

From: Marc Edwards <edwardsm@vt.edu>
Date: September 29, 2015 at 11:34:06 PM EDT
To: <schock.michael@epa.gov>, <Lytle.Darren@epamail.epa.gov>, <burneson.eric@epa.gov>, <demarco.carol@epa.gov>, <murphy.thomas@epa.gov>, <shoven.heather@epa.gov>, <deltoral.miguel@epa.gov>
Subject: **WHAT ARE YOU GUYS DOING DOWN THERE?**

Wurfel says to NPR you have to poison kids for a year before implementing corrosion control, and to determine the right orthophosphate dose?

Eric, is this going to be part of the new improved LCR? And is EPA going to hand Miguel's draft memo to Wurfel, to finalize and/or approve? Wurfel PROMISES THAT the final memo is going to tell a different story. And Miguel is now a ROGUE EPA employee?

EPA Office of Water and EPA Region 5 are a national embarrassment. You have a city in crisis, kids with elevated blood lead, and NO CORROSION CONTROL PLAN FOR 16 MONTHS, and yet you sit there and do absolutely nothing.

Marc

<http://www.npr.org/2015/09/29/444497051/high-lead-levels-in-michigan-kids-after-city-switches-water-source>

A [draft report from the EPA](#) that was obtained by the ACLU of Michigan also takes the city and state to task.

"Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to control lead and copper levels in the drinking water," the report read, adding that the treatment was discontinued after the switch to Flint River water.

"In accordance with the Lead and Copper Rule (LCR), all large systems ... are required to install and maintain corrosion control treatment for lead and copper. In the absence of any corrosion control treatment, lead levels in drinking water can be expected to increase," the report continued.

A Solution May Be Near

But officials with the Michigan Department of Environmental Quality dispute the findings of the draft report. MDEQ spokesman Brad Wurfel says the report was the work of a "rogue employee," and promised the final report — not yet released — would tell a much different story.

"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, Wurfel says, adding that's the only way to know how much phosphate to add to the water.

To: Moriarty, Edward[Moriarty.EdwardJ@epa.gov]; Edward Viveiros Personal Address / Ex. 6
Banks, Victoria[Banks.Victoria@epa.gov]
From: Lopez-Carbo, Maria
Sent: Wed 9/30/2015 3:12:04 PM
Subject: Fwd: WHAT ARE YOU GUYS DOING DOWN THERE?

Sent from my iPhone

Begin forwarded message:

From: "Burneson, Eric" <Burneson.Eric@epa.gov>
Date: September 30, 2015 at 10:07:09 AM CDT
To: "Grevatt, Peter" <Grevatt.Peter@epa.gov>, "Bergman, Ronald" <Bergman.Ronald@epa.gov>, "Lopez-Carbo, Maria" <Lopez-Carbo.Maria@epa.gov>, "Christ, Lisa" <Christ.Lisa@epa.gov>, "Clark, Becki" <Clark.Becki@epa.gov>
Subject: Fwd: WHAT ARE YOU GUYS DOING DOWN THERE?

Sent from my iPhone

Begin forwarded message:

From: Marc Edwards <edwardsm@vt.edu>
Date: September 29, 2015 at 11:34:06 PM EDT
To: <shock.michael@epa.gov>, <Lytle.Darren@epamail.epa.gov>, <burneson.eric@epa.gov>, <demarco.carol@epa.gov>, <murphy.thomas@epa.gov>, <shoven.heather@epa.gov>, <deltoral.miguel@epa.gov>
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To: Kempic, Jeffrey[Kempic.Jeffrey@epa.gov]
From: Christ, Lisa
Sent: Wed 9/30/2015 3:42:09 PM
Subject: FW: WHAT ARE YOU GUYS DOING DOWN THERE?

From: Burneson, Eric
Sent: Wednesday, September 30, 2015 11:07 AM
To: Grevatt, Peter; Bergman, Ronald; Lopez-Carbo, Maria; Christ, Lisa; Clark, Becki
Subject: Fwd: WHAT ARE YOU GUYS DOING DOWN THERE?

Sent from my iPhone

Begin forwarded message:

From: Marc Edwards <edwardsm@vt.edu>
Date: September 29, 2015 at 11:34:06 PM EDT
To: <schock.michael@epa.gov>, <Lytle.Darren@epamail.epa.gov>, <burneson.eric@epa.gov>, <demarco.carol@epa.gov>, <murphy.thomas@epa.gov>, <shoven.heather@epa.gov>, <deltoral.miguel@epa.gov>
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To: Hayes, Sam[Hayes.Sam@epa.gov]; Sonich-Mullin, Cynthia[Sonich-Mullin.Cynthia@epa.gov]; Lytle, Darren[Lytle.Darren@epa.gov]
From: Schock, Michael
Sent: Wed 9/30/2015 3:44:41 PM
Subject: RE: requested information
[guidance_lcmr_implementationshortterm.pdf](#)

Just for background, I found this guidance document that OW issued after the last round of LCR revisions in 2003. (the new round of revisions started 6 years later, in 2009, and we're now 6 years into that, and it's still going to go on for another couple of years). The highlighted part, Section E, which was highlighted from our workgroup discussions before I received it, discusses approval requirements for treatment or source water changes, which should have applied to Flint. But since Flint received their water from Detroit, they fell into a sub-part of the LCR for "consecutive systems," and they did not have water quality parameter requirements set for them, because the rule allowed them to be set for the wholesaler only. So though they changed sources, there were no water quality parameters set for Flint by virtue of being a consecutive system to Detroit. Thus, they did not violate the letter of the LCR compliance mechanism, which is deviating from Optimal Water Quality Parameter Ranges previously set.

Then, the determination was made by the state that upon changing water sources, Flint was now a "new" water system, though there are disagreements about the validity of that being discussed in OGWDW and Region 5 (primarily in the enforcement program). By becoming a new water system, Flint was no longer bound by the corrosion control treatment requirements of the wholesaler, and the clock was restarted to give them time to do two new monitoring rounds to "determine" if the water is sufficiently corrosive to warrant treatment. If they pass the two consecutive rounds of monitoring, they can save all of that money that would go into adjusting the water for corrosion control for lead, if the state "deems" them optimized under the rule. All indications are that the state would do that.

This is a quote from the MI-DEQ spokesperson in the NPR article: *"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, Wurfel says, adding that's the only way to know how much phosphate to add to the water."*

LCR monitoring is not appropriate for inferring what the phosphate feed dosage should be, that was to be done with studies designed specifically with that purpose in mind. The further misrepresentation is that the pH and alkalinity of the water alone, plus the removal of the phosphate that they had been receiving from Detroit for years, dictate that orthophosphate was

necessary from the start. That is lead chemistry that has been known for nearly 40 years. The only study required would be to determine the optimal dosage of the chemical, and integrating it into the other treatment process for other DW regulatory compliance. That was never done.

They'll be changing to a new water source in a year or two, the Lake Huron pipeline, and then they can start with the assessment period all over again for the new water. So far, we have not been informed that any anticipatory studies are underway for the next water change, and it's already (from a scientific perspective) probably too late to complete proper studies for design or adjustment of needed treatment processes and chemicals before the plant receives the new water.

From: Hayes, Sam
Sent: Wednesday, September 30, 2015 7:51 AM
To: Sonich-Mullin, Cynthia; Lytle, Darren
Cc: Schock, Michael
Subject: RE: requested information

Cndy,

We did not get the spreadsheet (see highlight below) mentioned in Tom Burke's e-mail. Please forward if you have this spreadsheet.

Thanks.

Sam

From: Sonich-Mullin, Cynthia
Sent: Tuesday, September 29, 2015 6:36 PM
To: Lytle, Darren
Cc: Hayes, Sam; Schock, Michael
Subject: Fwd: requested information

Darren,

I see you were cc'd on Stephen's email. See Tom's question and request to talk tomorrow. Once you have had a chance to review, let's discuss. I am looping in both Sam and Michael.

Thanks,

Cindy

Cynthia Sonich-Mullin

Director

National Risk Management Research Laboratory

U.S. Environmental Protection Agency

26 W Martin Luther King Dr.

Cincinnati, Ohio 45268
(513) 569-7923 (Office)

(513) 560-5043 (Cell)

Sent from my iPhone

Begin forwarded message:

From: "Burke, Thomas" <Burke.Thomas@epa.gov>
Date: September 29, 2015 at 6:01:21 PM EDT
To: "Sonich-Mullin, Cynthia" <Sonich-Mullin.Cynthia@epa.gov>
Subject: Fwd: requested information

See attached. Includes link to sampling instructions. Also spreadsheet of their testing thus far, including historical samples. Is this sampling method consistent with ours?

Let's set up a time to talk tomorrow.

Tom

Thomas A. Burke, PhD, MPH

Deputy Assistant Administrator

EPA Science Advisor

Office of Research and Development

202-564-6620

burke.thomas@epa.gov

Begin forwarded message:

From: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>
Date: September 29, 2015 at 3:56:43 PM EDT
To: "burke.thomas@epa.gov" <burke.thomas@epa.gov>
Cc: "lytle.darren@epa.gov" <lytle.darren@epa.gov>
Subject: requested information

Tom,

Here is the information you requested during our call today.

Attached

- Lead and copper compliance monitoring history
- Lead and copper customer samples collected on or after July 1

DEQ Sampling instructions, link below

http://www.michigan.gov/documents/deq/Lead_Copper_Sampling_Instructions_329915_7.pdf

Here is more info on our website regarding LCR stuff if you need it. The reporting forms page has some of the additional templates

http://michigan.gov/deq/0,4561,7-135-3313_3675_3691-9677--,00.html

Let me know if you have questions or need any other info. Thanks.

Stephen Busch, P.E.

MDEQ Lansing District Coordinator

Office of Drinking Water and Municipal Assistance

Lansing and Jackson District Supervisor

517-643-2314

buschs@michigan.gov



Lead and Copper Rule 2007 Short-Term Revisions and Clarifications Implementation Guidance

Office of Water (4606M)
EPA 816-D-07-003
www.epa.gov/safewater
December 2007



Printed on Recycled Paper

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LIST OF ACRONYMS AND ABBREVIATIONS

AL	Action Level
ANSI	American National Standards Institute
CCR	Consumer Confidence Report
CCT	Corrosion Control Treatment
CFR	Code of Federal Regulations
Cu	Copper
CWS	Community Water System
EPA	Environmental Protection Agency
EPTDS	Entry Point to the Distribution System
FR	Federal Register
GWUDI	Ground Water under the Direct Influence of Surface Water
LCR	Lead and Copper Rule
LCRMR	Lead and Copper Rule Minor Revisions
LSL	Lead Service Line
LSLR	Lead Service Line Replacement
M/R	Monitoring and Reporting (Violation)
MCLG	Maximum Contaminant Level Goal
mg/L	Milligrams per Liter
MPL	Maximum Permissible Level
NPDWR	National Primary Drinking Water Regulation
NTNCWS	Non-Transient Non-Community Water System
OCCT	Optimal Corrosion Control Treatment
OGC	Office of General Counsel
OGWDW	Office of Ground Water and Drinking Water
ORC	Office of Regional Counsel
OWQP	Optimal Water Quality Parameter
Pb	Lead
PE	Public Education
ppb	parts per billion
POE	Point-of-Entry (Treatment)
POU	Point-of-Use (Treatment)
PSA	Public Service Announcement
PWS	Public Water System
PWSS	Public Water System Supervision (Program)
SDWA	Safe Drinking Water Act
SDWIS/ODS	Safe Drinking Water Information System/Operational Data System
SNC	Significant Non-Compliance or Significant Non-Complier
SOWT	Source Water Treatment
TT	Treatment Technique (Violation)
WIC	Women, Infants, and Children Program
WQP	Water Quality Parameter
XML	Extensible Markup Language

INTRODUCTION

This document provides guidance to U.S. Environmental Protection Agency (EPA) regions, States and Tribes exercising primary enforcement responsibility under the Safe Drinking Water Act (SDWA) regarding implementation of the October 10, 2007, Lead and Copper Rule Short-Term Regulatory Revisions and Clarifications (hereafter referred to as the “Short-Term Revisions” or “Revisions”) under the SDWA. It also provides guidance to the public and the regulated community regarding EPA’s interpretation of the statute and regulations. This guidance is designed to implement national policy on these issues.

The SDWA provisions and EPA regulations described in this document contain legally-binding requirements. This document does not substitute for those requirements, nor is it a regulation itself. It does not impose legally-binding requirements on EPA, States, Tribes, or the regulated community and may not apply to a particular situation based upon the circumstances. EPA and State decision makers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance, where appropriate. Any decisions regarding a particular facility will be made based on the applicable statutes and regulations. Therefore, interested parties are free to raise questions and objections about the appropriateness of the application of this guidance to a particular situation. EPA will then consider whether or not the recommendations or interpretations in the guidance are appropriate in that situation based on the law and regulations. EPA may change this guidance in the future.

This manual contains the following sections:

- **Section I - Overview**, explains the purpose of the Revisions, the regulatory history of the Lead and Copper Rule, the development and benefits of the Revisions, their effective and compliance dates, and key dates for implementation and State and Tribal adoption of the Revisions.
- **Section II - Rule Requirements**, provides a detailed explanation of the seven major areas that were targeted by the Short-Term Revisions and those revisions that EPA considered but did not promulgate. This section also includes examples to help clarify these Revisions.
- **Section III - State Reporting Requirements and SNC Definitions** highlights the new State reporting requirement and provides an overview of Lead and Copper Rule significant non-complier (SNC) definitions.
- **Section IV - Revisions by Rule Section**, summarizes the Revisions by federal rule section.
- **Section V - Primacy Revision Application for the LCR Short-Term Revisions** includes a detailed timetable for the application review and approval process.

The appendices of this document also provide information that will be useful to States, Tribes and EPA regions throughout the primacy revision application process.

- **Appendix A** contains the primacy revision application crosswalk for the Rule.
- **Appendix B** contains a comparison of the Revisions against the previous version of the Lead and Copper Rule using the redline (or red text) and strikeout features of MS Word.
- **Appendix C** contains fact sheets that explain the Short-Term Revisions.

SECTION I: OVERVIEW

A. Purpose of the Rule Revision

The purpose of this summary is to acquaint State decision makers and public health officials with the Lead and Copper Rule (LCR) Short-Term Revisions. These Revisions were published in the *Federal Register* on October 10, 2007 (72 FR 57782); www.epa.gov/safewater/lcrmr/index.html). The purpose of the Short-Term Revisions is to strengthen the implementation of the LCR in the following areas: monitoring, treatment processes, public education, customer awareness, and lead service line replacement. These changes provide more effective protection of public health by reducing exposure to lead in drinking water.

The Short-Term Revisions do not change the action levels of 0.015 milligrams per liter (mg/L) for lead and 1.3 mg/L for copper, or the Maximum Contaminant Level Goals (MCLGs) established by the 1991 LCR, which are 0 mg/L for lead and 1.3 mg/L for copper. They also do not affect the Rule's basic requirements to optimize corrosion control and, if appropriate, treat source water, deliver public education, and replace lead service lines. The Short-Term Revisions continue to exclude transient non-community water systems from the requirements of the Rule.

B. LCR Regulatory History

EPA promulgated MCLGs and National Primary Drinking Water Regulations (NPDWRs) for lead and copper in 1991 (56 FR 26460, June 7, 1991). The goal of the LCR is to provide maximum human health protection by reducing lead and copper levels at consumers' taps to as close to the MCLGs as is feasible. To accomplish this goal, the LCR establishes requirements for community water systems (CWSs) and non-transient non-community waters (NTNCWSs) to optimize corrosion control and conduct periodic monitoring. Systems are required to perform public education when there are lead action level exceedances at more than 10 percent of the taps that are sampled, treat source water if it contributes significantly to lead and copper levels at the tap, and replace lead service lines in the distribution system if the lead level at the tap continues to exceed the action level after optimal corrosion control and/or source water treatment has been installed.

EPA proposed minor revisions to the LCR (LCRMR) in 1996 (60 FR 16348) and finalized these minor revisions on January 12, 2000 (65 FR 1950). These minor revisions streamlined the requirements of the LCR, promoted consistent national implementation, and reduced the reporting burden to affected entities. These minor revisions also addressed the areas of optimal corrosion control demonstration, lead service line replacement requirements, public education requirements, monitoring requirements, analytical methods, reporting and recordkeeping requirements, and special primacy considerations. The LCRMR did not change the action level, MCLG, or the rule's basic requirements.

Despite the LCRMR, some questions remained regarding 90th percentile calculations and monitoring requirements. In 2004, EPA issued two memoranda to address these questions. The March 9, 2004 memorandum from Cynthia Dougherty, the EPA Office of Ground Water and Drinking Water (OGWDW) Director, responded to the issue of whether a 90th percentile calculation could be determined if the minimum number of samples were not collected. This memorandum stated that

in this instance, the 90th percentile level would be based on the number of samples collected. For example, if 3 samples were collected, the 90th percentile would be based on the 2.7th sample (i.e., 0.9 multiplied by the number of samples). The 90th percentile is calculated by rounding to the nearest whole number (the 3rd or highest sample result in this example) or by interpolation (using the 2nd and 3rd sample results in this example). If the 90th percentile level exceeded the action level, the system would be triggered into the required follow-up actions. In addition, the public water system (PWS) would be assigned a lead and copper tap monitoring and reporting (M/R) violation.

The second memorandum was issued on November 23, 2004 by Benjamin Grumbles, Assistant Administrator for the EPA Office of Water. This memo clarified those LCR requirements associated with the collection and management of lead and copper samples and reiterated the guidance provided in the March 9, 2004 memo regarding 90th percentile calculations. It addressed the following questions regarding sampling: 1) samples to be used for 90th percentile calculations; 2) what PWSs should do with results from customer-requested samples; 3) what to do with samples collected outside the compliance period; 4) what constitutes a proper sample; 5) how PWSs can avoid problems with sample collection; and 6) sample invalidation criteria. EPA also prepared an accompanying fact sheet, *Clarification of Requirements for Collecting Samples and Calculating Compliance Fact Sheet* (EPA 810-F-04-001).

The Short-Term Revisions supersede the memos related to the requirements for calculating the 90th percentile level. The revised §141.86(c), clarifies the monitoring requirements for PWSs with fewer than five drinking water taps that can be used for human consumption and that meet the site-selection criteria. These systems must collect at least one sample from each tap and additional samples from those taps on different days during the monitoring period to meet the required number of sites. Alternatively, the State may grant its approval in writing to allow these PWSs to collect fewer than five samples, if all taps that can be used for human consumption are sampled. The newly added §141.80(c)(5) specifies that for systems that are allowed to collect fewer than five samples, the highest test result is the 90th percentile level. In addition, these systems would not be assigned an M/R violation. However, those PWSs that collect fewer than five samples without State written approval would be assigned an M/R violation.



A copy of these memoranda and the fact sheet can be downloaded at <http://www.epa.gov/safewater/lcmr/compliancehelp.html>

C. Development of the LCR Short-Term Revisions

In 2004, the District of Columbia experienced incidences of elevated lead levels in drinking water, which prompted EPA to initiate a comprehensive national review of the LCR to evaluate the implementation and effectiveness of the rule. The purpose of the review was to determine whether elevated lead levels in drinking water were a national problem; if a large percentage of the population received water that exceeded the lead action level; if a significant number of systems failed to meet the action level; how well the existing LCR worked to reduce drinking water lead levels; and if the regulation was being effectively implemented, especially with respect to monitoring and public education requirements. EPA's comprehensive review consisted of several elements, including a

series of workshops designed to solicit ideas, comments, and suggestions from stakeholders on particular issues; a review of monitoring data to evaluate the effectiveness of the LCR; and a review of the LCR implementation by States and water utilities. As a result of this multi-part review, EPA identified seven targeted rule changes intended to strengthen the implementation of the LCR in the areas of monitoring, consumer awareness, State notification of long term treatment changes, and lead service line replacement in the short-term. The short-term changes are expected to ensure and enhance protection of public health by reducing exposure to lead in drinking water. The final rule does not amend the portion of the regulations related to copper, however provisions addressing copper will be considered for future revisions to the rule. EPA will propose any future regulatory changes under a separate regulatory action.

D. Benefits of the LCR Short-Term Revisions

The intent of the 2007 rulemaking is to improve implementation of the LCR by clarifying monitoring requirements, improving consumer awareness, and modifying the lead service line “test-out” provision. The Short-Term Revisions do not affect the action levels, corrosion control requirements, lead service line replacement requirements, or other provisions in the existing rule that directly determine the degree to which the rule reduces risks from lead and copper.

However, the increase in administrative activities that will result from the Revisions will generate new information (e.g., more monitoring data, some of which may show exceedances), and may prompt some systems or individuals to respond to this new information by taking measures to abate lead and copper exposures and thus reduce the associated risk. Also, the requirement that long-term treatment changes be approved by the Primacy Agency prior to implementation will provide an additional opportunity to identify possible adverse impacts due to treatment changes, which may lower the risk to consumers.

Because the precise impact of the Revisions on the behavior of individuals and systems is not known, EPA has not quantified the changes in associated health benefits. However, EPA does expect that overall benefits from the LCR will increase, as a result of the indirect effects of the Revisions on the actions of individual consumers and systems.

E. Effective and Compliance Dates

The Short-Term Revisions were published on October 10, 2007. As of December 10, 2007 and pending a 60-day legal challenge period, they became law (effective), thereby superseding the previous version of the regulation. The compliance date for all of the provisions of this Rule is 180 days after publication in the *Federal Register* (i.e., April 7, 2008), or the effective date of any State program changes needed to implement the rule, whichever is later. Systems for which EPA is the Primacy Agency (i.e., Wyoming, DC, and most Indian territories) and in States that incorporate EPA’s drinking water regulations by reference must begin complying with the Short-Term Revisions on April 7, 2008.

Under 40 CFR 142.12, States with primacy for the drinking water program are required to adopt State regulations and submit a revised primacy application package to EPA within two years after promulgation of these rule revisions, or October 10, 2009. A State may request an extension for up to 2 years, or until October 10, 2011, if it can demonstrate that they cannot meet the October 10,

2009 deadline for reasons beyond its control, despite a good faith effort to do so. States have the flexibility of choosing early implementation, enabling the water systems to take advantage of the efficiencies in the new regulations in less than the required two years. For States that adopt this rule after six months but before two years or October 10, 2009, the Short-Term Revisions will be effect on the date that the State rule is effective.

F. Key Dates of the Rule

Exhibit I-1 presents the timetable for implementation of the Short-Term Revisions including the schedule for States to prepare and submit a revised primacy package.

Exhibit I-1. Timetable for the LCR Short-Term Revision Requirements	
Date	Requirements
October 10, 2007	Rule is published in <i>Federal Register</i> [72 FR 57782].
December 9, 2007	60-day legal challenge period ends. ¹
December 10, 2007	Rule effective date. ²
December 10, 2007	State and EPA region establish a process and agree upon a schedule for application review and approval. (<i>Refer to Section V for more detail.</i>)
April 7, 2008	Rule compliance date for States that adopt by reference or where EPA has primacy. ³
April 10, 2008 (<i>recommended</i>)	State, at its option, submits <i>draft</i> program revision package. (<i>Refer to Section V for more detail.</i>)
Completed within 90 days of State submittal of draft	Regional (and Headquarters if necessary) review of draft program revision package. (<i>Refer to Section V for more detail.</i>)
October 10, 2009 ⁴	State submits final program revision package. (<i>Refer to Section V for more detail.</i>)
October 10, 2011 ⁵	States with approved extensions submit complete and final program revision package. (<i>Refer to Section V for more detail.</i>)
Completed within 90 days of State submittal of final package (45 days region) (45 days headquarters)	EPA final review and determination regarding State's final program revision package. (<i>Refer to Section V for more detail.</i>)

¹ The federal Administrative Procedures Act requires a 60-day legal challenge period before any federal regulation becomes final.

² The effective date is when the Short-Term Revisions become law and supersede the previous version of the LCR.

³ The compliance dates is when the Primacy Agency will begin implementing (and systems must begin complying with) the requirements of the Short-Term Revisions. The earliest compliance date is April 7, 2008 and will apply to those systems where EPA is the Primacy Agency or in States that adopt the Rule by reference.

⁴ EPA suggests submitting an application by July 10, 2009, to ensure timely approval. EPA regulations allow States until October 10, 2009, for this submittal.

⁵ EPA suggests submitting an application by July 10, 2011 for States with approved extensions to ensure timely approval.

SECTION II: RULE REQUIREMENTS

Section I described each of the federal rule sections that were revised by the Short-Term Revisions. The discussion in this section is organized by each of the following seven targeted regulatory changes:

- Minimum number of samples required;
- Definitions for compliance and monitoring periods;
- Reduced monitoring criteria;
- Consumer notice of lead tap water monitoring results;
- Advanced notification and approval of long-term treatment changes;
- Public education requirements; and
- Reevaluation of lead service lines.

This section also includes an explanation of four areas on which EPA requested comment but decided not to promulgate in the Revisions.

A. Minimum Number of Samples Required

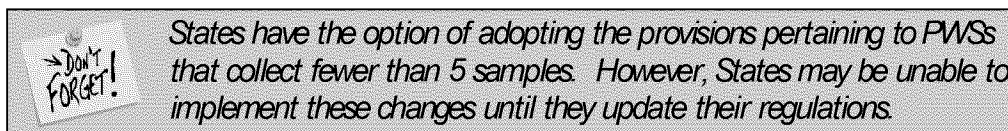
The Short-Term Revisions clarify the minimum sampling requirement for small water systems that have fewer than five taps and the meaning of the term “site” by amending §141.86(c). In the original 1991 LCR, the term “site” referred to the number of samples collected. However, the term was confusing as to whether it referred to taps or physical locations.

Specific revisions to §141.86(c) are:

- A clarification that sampling “sites” refer to “taps that can be used for human consumption,” such as kitchen and bathroom taps as opposed to outlets such as hose bibs or taps at utility sinks.
- A clarification that systems with fewer than five taps that can be used for human consumption must sample all taps at least once and then take repeat samples on different days until a total of five samples are obtained (except as noted in the next bullet).
- A new provision that gives States the discretion to allow water systems that have fewer than five taps to collect one sample from each tap that can be used for human consumption. To qualify for this provision, the water system must make a request to the State in writing and the State must approve the request in writing or by an on-site verification.

EPA has added regulatory language to two other sections that pertain to systems that receive State permission to collect fewer than five samples as follows:

- §141.80(c)(5) requires systems with fewer than five samples to use the highest test result as the 90th percentile level. If this result exceeds the action level, then the system must complete appropriate follow-up actions (e.g., public education, corrosion control treatment, and lead service line replacement).
- §141.86(d)(4)(i) allows these water system to reduce the lead and copper sampling frequency to once per year but requires systems to collect at least one sample per tap that can be used for human consumption. *[Note: §141.86(d)(4)(iii) allows water systems to further reduce their lead and copper tap monitoring frequency to triennially. Although, the Revisions do not include specific language requiring systems that monitor triennially to collect at least one sample per tap that can be used for human consumption, it was EPA's intent that they do so.]*



B. Definitions for Compliance and Monitoring Periods

The Revisions clarify the “compliance period” as a three-year calendar period and the “monitoring period” as the specific period in which water systems must conduct required monitoring (e.g., for systems on reduced monitoring, the four-month period of June through September or an alternate four-month period specified by the State). In addition, the Revisions provide a number of clarifications throughout the rule to explain when compliance and monitoring periods begin and end. These clarifications help define the timing of actions following a lead or copper action level exceedance; the timing of monitoring activities related to reduced monitoring schedules; and reporting requirements, as described in more detail below.

B.1 Timing of Follow-up Actions

Under the previous regulations, there was uncertainty about when a system was determined to have exceeded the action level and the corresponding deadlines for completing corrosion control studies, public education, lead service line replacement, and public education (e.g., end of December or the end of September for systems monitoring during June through September). The Short-Term Revisions clarify that a system has exceeded an action level as of the date on which the monitoring period ended (e.g., on September 30). This clarification is also intended to ensure that the system and the State begin actions to reduce exposure (e.g., corrosion control, public education, and lead service line replacement) as soon as possible. The deadlines for completing these follow-up activities will be calculated from the date the system is determined to be exceeding the action level (i.e., the end of the monitoring period).

Exhibit II-1 lists the LCR rule sections and corresponding requirements to which EPA has added language that clarifies the timing of actions following an action level exceedance.

Exhibit II-I. Time Frame for Action Level Exceedance Follow-up Activities		
Federal Citation	Requirement	Deadline¹
§141.81(e)(1)	System recommends optimal corrosion control treatment (OCCT).	6 months
§141.81(e)(2)	State determines a corrosion control study is required.	12 months
§141.81(e)(2)(i)	State specifies OCCT for medium-size systems that are not required to conduct a study.	18 months
§141.81(e)(2)(ii)	State specifies OCCT for small systems that are not required to conduct a study.	24 months
§141.83(a)(1)	System completes initial source water monitoring and makes a treatment recommendation.	180 days
§141.84(b)(1)	Systems begin the first year of lead service line replacement. ²	1 day
§141.85(b)(2)	CWS conducts public education tasks (for CWSs that are not already conducting public education) – <i>also see paragraph below.</i>	60 days
§141.85(b)(4)	NTNCWS conducts public education tasks (for NTNCWSs that are not already conducting public education) – <i>also see paragraph below.</i>	60 days
§141.88(b)	System conducts initial source water monitoring.	6 months
¹ Expressed as number of months or days <i>after the end of the monitoring period during which</i> the lead and/or copper action level was exceeded. ² Corresponds to the monitoring period in which the PWS exceeds the lead action level after installing corrosion control treatment and/or source water treatment, whichever is later. [Refer to Section B.3 for clarifications to the timing of reporting actions associated with lead service line replacement.]		

The Revisions also allow the State discretion to extend the 60-day requirement for delivering public education materials for CWSs (§141.85(b)(3)(iv)) or NTNCWSs (§141.85(b)(5)), provided that the extension is approved in writing before the end of the 60-day deadline.


B.2 Timing of Monitoring Requirements

EPA has also clarified the timing of monitoring activities for systems that qualify for reduced lead and copper tap, WQP, and/or source monitoring or no longer meet the reduced monitoring criteria. These Revisions help clarify that reduced monitoring must occur during June through September of the same calendar year or during an alternate four-month period designated by the State within the same calendar year. The Revisions also more clearly define the monitoring requirements for systems after the State sets OWQPs, and for those on triennial or nine-year monitoring. For example, some States interpreted triennial monitoring to mean that samples could be collected during the first, second, or third year of the three-year compliance period or over multiple years as long as the samples were collected in the summer months of June through September. In some cases, more than three years spanned between monitoring periods (e.g., samples were collected in 2002 of the compliance period 2002 through 2004, and in 2007 for the compliance period 2005 through 2007).

The Revisions that clarify monitoring pertaining to lead and copper tap, WQPs, and source water are discussed in more detail below. Also refer to section B.3 regarding the clarification of timing requirements for system reporting to the States.

B.2.1 Lead and Copper Tap Monitoring

Section 141.86(d)(4)(i) allows medium and small systems to proceed to annual monitoring at the reduced number of sites if they meet the lead and copper action levels during each of two consecutive six-month monitoring periods. Section 141.86(d)(4)(ii), as modified by the Short-Term Revisions, allows any water system that *meets the lead action level and* OWQPs for two consecutive six-month monitoring periods to monitor annually at the reduced number of sites. The Short-Term Revisions clarify the start of annual monitoring in these two sections by specifying that it must begin during the calendar year immediately following the end of the second consecutive six-month monitoring period.



EXAMPLE – Annual Monitoring

- * A PWS is below both action levels and OWQPs during July 1- December 31, 2008 and January 1- June 30, 2009.
- * Annual monitoring would begin in 2010 because the PWS completed its 2nd six-month monitoring period below the lead and copper action levels in 2009.
- * The PWS would collect the annual samples during June - September 2010 or during the State-designated alternate 4-month period in 2010, if applicable.
- * The PWS would report the results to the State by October 10, 2010 or 10 days after the end of the State-designated period.
[Refer to section B.3 regarding reporting clarification.]

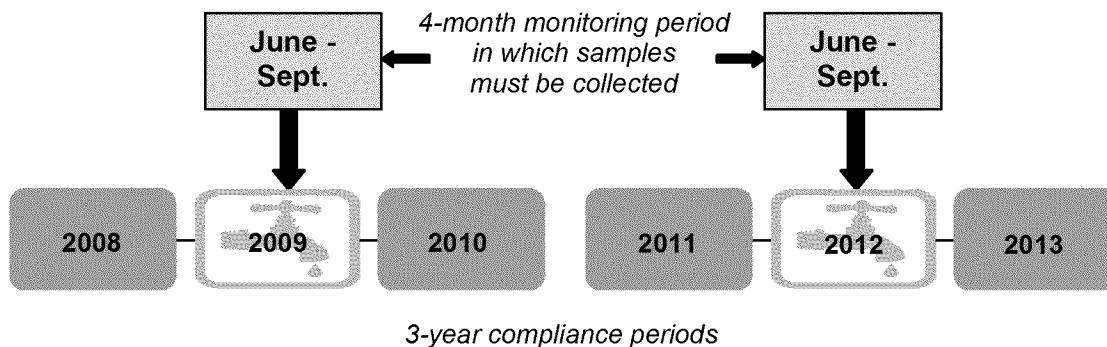
Section 141.86(d)(4)(iii) allows medium and small systems to proceed to triennial monitoring at the reduced number of sites if they meet the lead and copper action levels during each of three consecutive years. This section, as modified by the Short-Term Revisions, also allows any water system that *meets the lead action level and* OWQPs for three consecutive years and with approval from the State to conduct triennial monitoring at the reduced number of sites. In addition, the Revisions specify that triennial samples must be collected no later than every third calendar year.



EXAMPLE – Triennial Monitoring

- * PWS qualifies for triennial monitoring based on its OWQPs and sample results and must monitor during 2008 - 2010.
- * The PWS collects its sample during July 2009 and reports the results by October 10, 2009.
- * The next set of samples must be collected no later than June through September of 2012. *[See Exhibit II-2 below.]*

Exhibit II-2. Three-Year Compliance Period for Systems on Reduced Triennial Monitoring



Section 141.86(d)(4)(iv)(A) allows the State to specify a maximum alternate lead and copper tap monitoring period of four consecutive months for NTNCWSs that do not operate during June through September. The Revisions clarify when annual and triennial reduced monitoring will begin for these systems. Specifically, monitoring will begin during the State-specified alternate months:

- in the calendar year immediately following the end of the second consecutive six-month monitoring period for systems initiating annual monitoring, and
- during the three-year period following the end of the third consecutive calendar year of annual monitoring for systems initiating triennial monitoring.



EXAMPLE – Triennial Monitoring for NTNCWS on an Alternate Schedule

- * A NTNCWS is closed during the summer months and is required to collect lead and copper samples during April or May.
- * It completes its third consecutive year of monitoring that is below the action levels during May 2009.
- * The system is required to conduct monitoring during the period of 2010 to 2012 (i.e., the 3-year period following the year in which it qualified for triennial monitoring based on annual monitoring results).
- * The NTNCWS must sample during April or May of 2012. No more than three years can pass between triennial monitoring periods.

Section 141.86(d)(4)(vi)(B) requires water system on reduced monitoring that exceed the lead action level or do not meet their OWQP specification for more than nine days in a six-month period (i.e., have an excursion) to resume standard lead and copper tap monitoring. The Revisions clarify that this standard monitoring must begin no later than the six-month monitoring period beginning January 1 of the calendar year following the lead action level exceedance or WQP excursion.




EXAMPLE – Resuming Standard Monitoring

- * A PWS meets its OWQP specifications but exceeds the lead action level based on samples collected during July 2009.
- * This PWS must resume standard lead and copper tap monitoring beginning with the six-month monitoring period of January- June 30, 2010.

Section 141.86(d)(4)(vi)(B)(1), as modified by the Revisions, allows a system to re-qualify for reduced annual lead and copper tap monitoring if it has two consecutive six-months rounds below the *lead action level*, meets its OWQPs, and receives written approval from the State. The Revisions also specify that annual monitoring will begin during the calendar year immediately following the end of the second consecutive six-month monitoring period in which the system meets the reduced monitoring criteria. The example above (i.e., *Example – Annual Monitoring*) explains when annual monitoring would begin.

Section 141.86(g)(4)(i) requires small systems with full waivers to conduct reduced lead and copper tap monitoring once every nine years. The Revisions clarify these samples must be collected by the ninth calendar year. [Note: This clarification was not added to §141.86(d)(4)(ii), which allows systems on

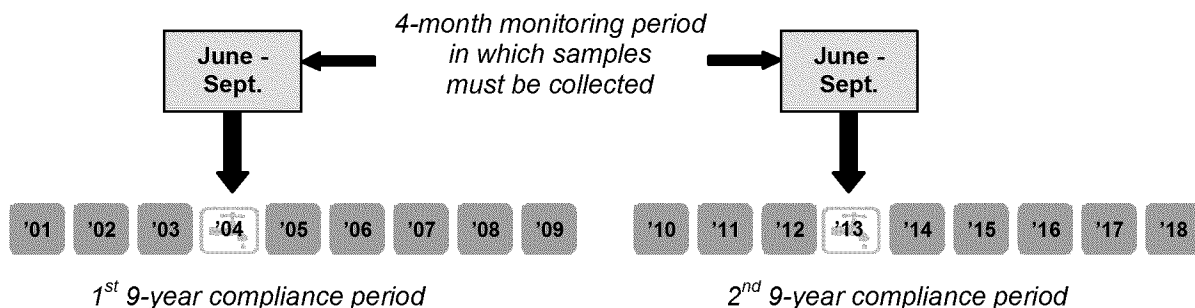
partial waivers to conduct reduced lead and copper tap monitoring every nine years for the waived contaminant. However, it was EPA's intent these samples be collected by the ninth calendar year.]




EXAMPLE – Nine-Year Monitoring Waiver

- * A small PWS with a monitoring waiver is required to collect samples during 2001 - 2009.
- * The PWS conducts monitoring during August 2004.
- * Because these samples must be collected every 9 years, the next set of samples must be collected no later than June - September of 2013. *[See Exhibit II-3 below.]*

Exhibit II-3. Nine-Year Compliance Period for Systems on Monitoring Waivers





Systems that are on reduced lead and copper tap monitoring must collect their samples during June - September of the same calendar year.

B.2.2 WQP Monitoring

The Short-Term Revisions add language to §141.87(d) that specify the first six-month WQP monitoring period begins after the State specifies OWQPs. For large water systems (those serving more than 50,000 people), this period begins on either January 1 or July 1, whichever comes first, after the State specifies OWQPs.

For small or medium-size systems that were on reduced lead and copper tap monitoring but exceed an action level, §141.87(d) of the Revisions require the start of the six-month WQP period to

coincide with the start of the 4-month monitoring period during which the exceedance occurred. This will allow small and medium systems on reduced monitoring that exceed the action level two months to take WQP samples after the end of the 4-month monitoring period in which they had to take lead and copper tap samples. For example, a system that takes lead and copper tap samples between June and September and exceeds the action level, would have until the end of November to take WQP samples. This provision is intended primarily for systems that are not aware of the exceedance until the end of the lead and copper monitoring period. However, those systems that are aware of the action level exceedance earlier in the four-month lead and copper monitoring period should conduct their WQP monitoring once they become aware of the exceedance to better capture the water quality conditions at the time of the exceedance.

Section 141.87(e)(2)(i) allows a water system that is collecting a reduced number of WQP tap samples on a six-month schedule to reduce the frequency to annually if it meets its OWQP specifications during three consecutive years (i.e., six consecutive six-month periods). The Short-Term Revisions specify that this annual WQP tap monitoring will begin during the calendar year that immediately follows the end of the monitoring period in which the third consecutive year of six-month monitoring occurs. (*Refer to “Example – Annual Sampling” in Section B.2.1.*)

Section 141.87(e)(2)(i) also States that a water system that meets its OWQP specifications for three consecutive years of annual monitoring can further reduce the frequency of tap WQP monitoring to triennially. The Revisions clarify that triennial monitoring must be started within three calendar years after the system qualifies for triennial monitoring.



EXAMPLE – Tap WQP Triennial Monitoring

- * A PWS meets its OWQPs for the 3rd consecutive year during 2008.
- * This system must collect its tap WQP samples by the end of 2011 (i.e., within 3 years after it qualifies for triennial monitoring).

A system can also qualify for triennial tap WQP monitoring under §141.87(e)(2)(i) if it meets its OWQPs and its 90th percentile lead and copper levels are at or below 0.005 mg/L for lead and 0.65 mg/L for copper, respectively. The Revisions state that triennial monitoring must be completed no later than every third calendar year (e.g., if tap WQP samples were collected in 2007, the next set would be due by the end of 2010).

B.2.3 Source Water Monitoring

The Short-Term Revisions clarify the timing of reduced source water monitoring after the State sets maximum permissible levels (MPLs) in source water or determines that source water treatment is not needed. Specifically, the Revisions:

- Retain the requirement in §141.88(d)(1)(i) for systems using ground water sources only to monitor once during the three-year compliance period as defined in §141.2 (e.g.,

1/1/2008 - 12/31/2010; 1/1/2011 - 12/31/2013) but clarifies that this monitoring must be conducted every third calendar year.



EXAMPLE – Triennial Source Water Monitoring

- * A ground water system on triennial monitoring collects a source water sample from each entry point on November 11, 2008.
- * It must complete its next round of monitoring by December 31, 2011.

- Retain the requirement in §141.88(d)(1)(ii) that systems using surface water or ground water under the direct influence of surface water (GWUDI) sources must conduct annual source water monitoring but clarifies that the first annual monitoring period begins during the year in which the State set MPLs or determined that source water treatment is not required. Therefore, both the determination and sample collection must occur before the end of December. This clarification encourages States to make timely decision to allow systems to meet the December 31 deadline.



EXAMPLE – Annual Source Water Monitoring

- * A surface water system submits initial source water monitoring results to the State on May 15, 2008.
- * On October 31, 2008, the State determines that no treatment is needed.
- * The system must collect a sample from each entry point to the distribution system by December 31, 2008.

The Revisions also clarify that ground water systems [§141.88(e)(1)] or surface water or GWUDI systems [§141.88(e)(2)] that qualify for reduced nine-year source water monitoring may monitor once during each nine-year compliance cycle as defined in §141.2 (e.g., 1/1/02 - 12/31/2010) if samples are collected no later than every ninth calendar year. The Revisions do not change the reduced monitoring criteria. To qualify for nine-year monitoring, ground water systems and surface water systems must still be below the MPLs or have lead source water levels of ≤ 0.005 mg/L and copper levels of ≤ 65 mg/L for three compliance periods or three consecutive years, respectively.



EXAMPLE – Nine-Year Source Water Monitoring

- * A ground water system is on 9-year source water monitoring.
- * It collects a source water sample from each entry point on November 18, 2009.
- * The next sample must be collected by December 31, 2018 (i.e., no later than every 9th year).

B.3 Clarification to Timing of Reporting Requirements

The Short-Term Revisions clarify the timing of reporting requirements by defining the end of the monitoring period as follows:

- §141.90(a)(1) requires water systems to submit information pertaining to lead and copper tap and WQP monitoring within the first 10 days following the end of the applicable monitoring period. The Revisions clarify that for systems on reduced lead and copper tap monitoring, the end of the monitoring period is the last date samples can be collected (e.g., September 30 for systems on reduced monitoring, unless the State has set an alternate period). For example, a system that is required to collect samples during 2008 - 2010 and collects them during 2009, would need to report the results by October 10, 2009. The system would not have until the end of the three-year compliance period (2010) to report these results.



Systems must collect their samples early enough in the June - September monitoring period to enable them to report their results to the State by October 10th.

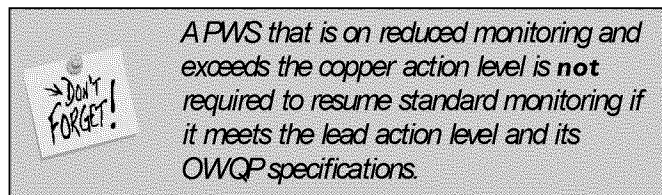
- §141.90(e)(1) requires water systems to submit their material evaluation that identifies the initial number of lead service lines in its distribution system. The Revisions clarify that this reporting requirement is due no later than 12 months after the end of the monitoring period in which the system is triggered into lead service line replacement (i.e., an exceedance that occurs after the system installs corrosion control and/or source water treatments, whichever is later). The Revisions also define the initial number of lead service lines as the number present in the distribution system during the monitoring period that triggered the system into lead service line replacement.
- §141.90(e)(2) specifies that the system must submit documentation that demonstrates compliance with its replacement requirements within 12 months after it exceeds the lead action level. The Revisions clarify that this information is due no later than 12 months after the end of a monitoring period in which it exceeds the lead action level after initiating lead service line replacement.

C. Reduced Monitoring Criteria

EPA is no longer allowing water systems that exceed the lead action level to initiate or remain on a reduced lead and copper monitoring schedule based solely on the results of their WQPs. The rule previously allowed systems eligibility for reduced monitoring even if they exceeded the lead or copper action level if they could demonstrate their corrosion control treatment was effective by meeting their OWQPs. However, as shown by the events in the District of Columbia, compliance with WQPs alone may not always indicate that corrosion control is effective, especially after a treatment or source change. Continued exceedance of the lead action level may indicate that a particular method of corrosion control treatment is not effective for a particular system and knowledge of this continued exceedance may result in the system implementing an alternative and more effective corrosion control treatment strategy. In addition, more frequent monitoring will allow States to gain a more accurate picture of lead levels in drinking water in their States. Many systems within States share water sources, have similar treatment technologies, and have similar materials in their distribution systems. States and other Primacy Agencies with knowledge of effective corrosion control for one system may be able to aid other systems within their jurisdiction in lowering lead levels in water.

The Revisions modify the reduced monitoring provisions in §141.86(d)(4)(ii), (iii), and (vi)(B) as follows:

- Systems can monitor annually at the reduced number of samples if they meet the *lead action level* and their OWQPs for two consecutive six-month monitoring periods.
- Systems can monitor triennially at the reduced number of samples if they meet the *lead action level* and their OWQPs for three consecutive years.
- Systems on reduced monitoring that exceed the *lead action level* or have an OWQP excursion must resume standard lead and copper tap and WQP monitoring.

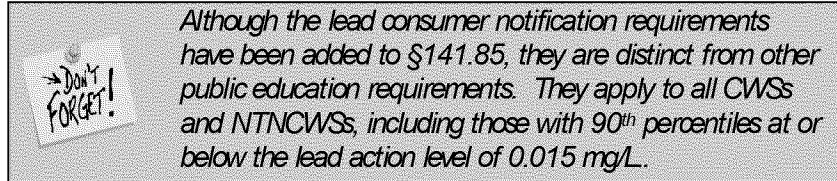


D. Consumer Notice of Lead Tap Water Monitoring Results

EPA amended the public education requirements described in §141.80(g) and added a new notification requirement to §141.85(d) that requires all PWSs to provide consumers who occupy homes or buildings that are part of the utility's monitoring program with results when their drinking water is tested for lead (including those who do not receive water bills). These results will help occupants determine what actions to take to reduce their exposure to lead in drinking water. Although some water systems may have provided customers with testing results, they were not previously required by EPA to notify occupants of the lead levels found in their drinking water.

Sections 141.85(d)(2)-(4) specify the timing, content, and delivery methods for this notification as follows:

- §141.85(d)(2) requires the notification to be provided within 30 days of when the system learns of the results.
- §141.85(d)(3) specifies that the notice must include: an explanation of the health effects of lead, steps consumers can take to reduce exposure to lead in drinking water, contact information for the water utility, the MCLG and the action level for lead, and the definitions for these two terms from §141.153(c) of the CCR Rule.
- §141.85(d)(4) requires the notice to be sent by mail or other State-approved method (e.g., NTNCWS can post the results on a bulletin board in the tested facility).



Where testing occurs in buildings with many units (e.g., an apartment building), the notification must be provided to each individual unit that was tested (i.e., notification does not need to extend to the entire building).

EPA also added a corresponding reporting requirement in §141.90(f)(3). Within 3 months following the end of the monitoring period, systems must submit a copy of the notification and a certification that the system met the delivery requirements to their State.

E. Advanced Notification/Approval of Long-Term Treatment Changes

The LCRMR required systems to notify the State within 60 days of making a change in treatment or adding a new source. The Revisions require water systems to receive approval from the State before adding a new source or making any long-term treatment change. When a water system makes long-term changes to its treatment process or adds a new source of water, it can unintentionally affect the system's optimal corrosion control. EPA believes that State review and approval of changes in long-term treatment or addition of a new source will provide an opportunity to minimize any potential impacts on optimal corrosion control.

The Short-Term Revisions clarify EPA's intent by stating that the notification of treatment changes apply to those that would have *long-term* impacts on water quality and in advance of the change. EPA believes that this clarification will prevent water systems from notifying the State and requesting approval for changes that are operational in nature or made on a daily basis.

EPA amended the provisions pertaining to systems deemed to have optimized corrosion control treatment, systems on reduced lead and copper tap monitoring, and systems with lead and copper tap monitoring waivers in §§141.81(b)(3)(iii), 141.86(d)(4)(vii), and 141.86(g)(4)(iii). The Revisions also make a corresponding change to the reporting requirements in §141.90(a)(3) to require water systems to obtain prior approval from the State to add a new source of water or make any long-term

change in water treatment process prior to implementation. The Revisions allow as much time as needed for water systems and States to consult before making these changes, compared to the prior requirement to notify the State within 60 days of the treatment change or source addition.

Section 141.90 also provides examples of long-term treatment changes. These examples include the addition of a new treatment process or modification of an existing treatment process such as:

- switching secondary disinfectants (e.g., chlorine to chloramines),
- switching coagulants (e.g., alum to ferric chloride),
- switching corrosion inhibitor products (e.g., orthophosphate to blended phosphate), and
- changing the dosage of existing chemicals if the system is planning long-term changes to its finished water pH or residual inhibitor concentration.

F.Y.I.

Long-term treatment changes would not include chemical dose fluctuations associated with daily raw water quality changes.

Additional examples of long-term treatment changes include the installation of membrane filters, ozonation, and enhanced coagulation/enhanced softening to reduce disinfectant by-product precursors. Other treatments to consider are those processes or combinations of processes that can greatly affect the pH, oxidation-reduction potential, alkalinity, or the major composition of the ionic background of the water. These include:

- Initiation of aeration (radium removal) or disinfection to a system previously having none.
- Installation of oxidation/removal process for iron, manganese, hydrogen sulfide, ammonia, and other similar contaminants, in a system previously having minimal or no disinfectant residual. Examples include aeration and filtration, permanganate addition, breakpoint chlorination, greensand, or biologically-active filtration followed by disinfection.
- Change from lime softening to ion exchange softening (alkalinity may increase greatly, causing corrosivity), particularly in ground water systems (more likely to have high alkalinities and thence, copper problems).
- Change from orthophosphate inhibition to pH/alkalinity adjustment as a corrosion control treatment strategy, or vice versa.
- Installation of sorptive or ion-exchange media for arsenic, radionuclide, or other contaminant removal that requires or is operated in such a way as to cause a pH decrease.

In addition, to assist the State in making its determinations, EPA published “*Simultaneous Compliance Guidance Manual for the Long Term 2 and Stage 2 DBP Rules*” (EPA 815-R-07-017) on March 2007. This document can aid the State in identifying those situations where optimal corrosion control can be affected by long-term changes in treatment or source water.



A copy of this guidance can be downloaded at
<http://www.epa.gov/safewater/lcmmr/compliancehelp.html>

F. Public Education Requirements

EPA revised the LCR public education requirements in §141.85. Water systems are still required to deliver public education materials after a lead action level exceedance. However, EPA made significant modifications to the content of the written public education materials (i.e., message content) and added a new set of delivery requirements. In addition, water systems must submit public education language for State review and approval at the option of the State. EPA is also making revisions to §141.154 that will require all CWSs to include an educational statement about lead in their CCRs.

This section explains how the Short-Term Revisions have impacted the message content, delivery requirements, timing, and CCR requirements. EPA also has developed two public education fact sheet summarizing the public education requirements and two public education guidance documents, *Implementing the Lead Public Education Provisions of the Lead and Copper Rule: A Guide for Community Water Systems*, and *Implementing the Lead Public Education Provisions of the Lead and Copper Rule: A Guide for Non-Transient Non-Community Water Systems*. In addition to providing a detailed explanation of the revisions to the public education requirements, the Public Education guidances explain how to design and implement an effective public education program, and includes public education templates that can be adapted for use.



Detailed public education guidance documents for CWSs
and NTNCWSs are available at
<http://www.epa.gov/safewater/lcmmr/compliancehelp.html>

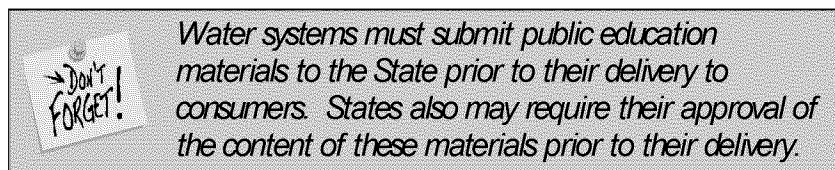
F.1 Message Content

During EPA's national review of the LCR, many stakeholders stated that the public education requirements needed improvement. At the September 2004 EPA Public Education Expert Workshop, which was held in Philadelphia, a number of concerns were raised about the effectiveness of the existing public education language and requirements. Workshop participants stated that the mandatory language in the rule was too long, cumbersome, and complex. With some modifications, EPA has included the public education language developed by the National Drinking Water Advisory Council (NDWAC) in the Short-Term Revisions as a replacement to the prior public education requirements of the LCR. The revised public education information is more clear and concise and also encourages the public to take an appropriate course of action to reduce their exposure to lead. The health effects language section was revised by EPA to improve consumer awareness and understanding of potential effects of exposure to lead.

F.I.1 Requirements Applicable to All Systems

The Short-Term Revisions require CWSs and NTNCWSs to deliver the same mandatory language that consists of an opening statement, health effects language, and sources of further information (See §§141.85(a)(1)(i), (ii), and (vi) in Appendix B for exact language.) The health effects language has been revised to provide greater specificity on the health problems that can result from exposure to lead (e.g., the original health effects language indicated that lead can cause damage to the brain, while the new language specifies that this damage is associated with lower IQ in children). The revised rule also requires these water systems to include information regarding sources of lead, steps consumers can take to reduce their lead exposure, any known reasons for elevated lead levels, and steps that the water system is taking to reduce lead levels. However, unlike the prior requirements, water systems have the flexibility to tailor these topics to fit their community and/or situation. For example, previous public education language required water systems to instruct consumers to flush their faucet for 15-30 seconds or one minute (if the home has a lead service line) before drinking the water. This rule allows systems to tailor flushing directions to their specific situations.

Section 141.85(b)(1) of the Short-Term Revisions specify that the State is to make the determination as to whether the PWS serves a large proportion of non-English speaking consumers. In these instances, the education materials must include either of the following in the appropriate languages: 1) the importance of the notice; or 2) water system contact information that specifies where to obtain a translated copy of the materials or to request assistance. Previously, in those communities where a significant proportion of the population spoke a language other than English, water systems had to provide public education materials in the appropriate languages.



F.I.2 Requirements Applicable to CWSs

CWS's public education materials must also indicate how consumers can get their water tested, and provide a discussion of lead in plumbing materials and the difference between low-lead and lead-free materials. However, §141.85(a)(7) allows CWSs that meet both of the following requirements (i.e., hereafter referred to as "special CWSs") to apply to the State in writing to forego these requirements:

- The population served cannot make improvements to plumbing or install point-of-use devices (e.g., CWS is a prison, hospital), and
- The CWS does not charge separately for water consumption.

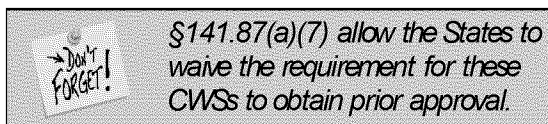


Exhibit II-4 provides a summary of the revisions to the public education language requirements, their corresponding federal rule citation, and to which systems the requirements apply.

Exhibit II-4. Revisions to Public Education Message Content Requirements		
Revision	Corresponding Rule Section	Applicability
Must submit public education materials to the State prior to delivery to consumers. States may require approval of the content of these materials before their delivery.	§141.85(a)(1)	CWSs and NTNCWSs
If the State determines that the PWS serves a large proportion of non-English speaking consumers, materials must include in appropriate languages: 1) the importance of the notice; or 2) contact information to obtain a translated copy of materials or request assistance.	§141.85(b)	
Public education materials must include the following mandatory language: <ul style="list-style-type: none"> • revised mandatory opening statement, • health effects, and • sources of further information. 	<ul style="list-style-type: none"> • §141.85(a)(1)(i) • §141.85(a)(1)(ii) • §141.85(a)(1)(vi) 	
Any non-mandatory language must be consistent with the requirements in paragraphs (a)(1)(i) - (vi) and in plain language that can be understood by the general public.	§141.85(a)(1)	
May use personalized language to discuss: <ul style="list-style-type: none"> • sources of lead, • known reasons for elevated lead levels, • steps PWS is taking to reduce lead in drinking water, and • steps consumers can take to reduce lead in drinking water. <i>Previously prewritten text was already included. Systems can now develop their own text within the guidelines that is applicable to local situation.</i>	<ul style="list-style-type: none"> • §141.85(a)(1)(iii) • §141.85(a)(1)(iv) • §141.85(a)(1)(iv) • §141.85(a)(1)(v) 	
Must include language explaining: <ul style="list-style-type: none"> • how consumers can get their water tested, and • lead in drinking water and the difference between low-lead and lead-free materials. 	<ul style="list-style-type: none"> • §141.85(a)(2)(i) • §141.85(a)(2)(ii) 	CWSs only*
* §141.85(a)(7) allows “special CWSs” to apply in writing to forego these public education requirements. States may waive the need for prior approval.		

F.2 Delivery

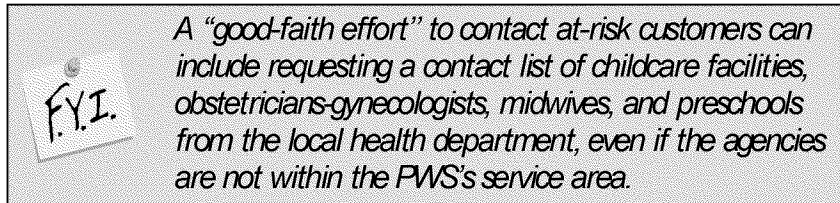
EPA is revising the delivery requirement associated with public education materials to help ensure that consumers, specifically at-risk populations, receive the information they need in a timely manner to limit their exposure to lead in drinking water. The discussion below, distinguishes between those requirements that pertain to all systems delivering public education, or to a subset of systems (e.g., CWSs serving 3,300 or fewer people). Exhibits II-5a and II-5b include a description of the revisions to the delivery requirements for CWSs and NTNCWSs, respectively, the corresponding rule citation for these requirements, the timeframe for public education delivery, and the systems to which the requirements apply.

F.2.1 Requirements Applicable to CWSs

EPA has expanded the delivery requirements in recognition of the importance of distributing information to the at-risk populations (e.g., pregnant women, infants, and young children) on the hazards of lead and how individuals can protect themselves from exposure to lead. In addition, since EPA believes that communicating with consumers is important in promoting public awareness, the rule requires systems to continually communicate with consumers for as long as they exceed the lead action level. Each of these delivery requirements are explained in more detail below.

Organizations Serving At-Risk

Populations: CWSs must make a “good faith effort” to locate and deliver materials to additional organizations (i.e., licensed childcare facilities, obstetricians-gynecologists and midwives, and preschools) and to include an informational notice with the public education materials explaining the importance of sharing the information with their customers or users.



The Short-Term Revisions retain the requirement for CWSs to deliver public education materials to the following organizations in their area but adds a requirement to include an informational notice (as discussed in the preceding paragraph): 1) public schools or school boards; 2) Women, Infants, and Children (WIC) and Head Start programs, 3) public and private hospitals and medical clinics; 4) pediatricians; 5) family planning clinics; and 6) local welfare agencies. The Revisions also expand this list to include delivery of public education materials and the informational notice to private schools or their school boards.

Local Health Agencies: EPA recognizes that local health agencies may be valuable resources for identifying additional community-based organizations that serve target populations. Previously, CWSs were required to distribute public education materials to health departments in their area. The Short-Term Revisions require CWSs to contact their local health agencies via phone or in-person, rather than relying solely on mailing, to request their assistance in distributing information on lead in drinking water and how people can reduce their exposure to lead. Systems must contact their local public health agencies even if they are located outside the service area of the water systems. Furthermore, the local public health agencies may provide a water system with a specific list of additional community-based organizations serving target populations, which may include organizations outside the service area of the water system. If such lists are provided, systems must deliver materials to all organizations on the provided lists.

Billing Customers: The Short-Term Revisions retain the requirements for CWSs to provide public education materials to all bill-paying customers but modify the mandatory alert language to be included on the water bill. CWSs may modify this message or provide the information in a separate mailing or other delivery method if allowed by the State.

Press Releases: The Short-Term Revisions remove the requirement for medium and large CWSs to provide two PSAs per year. Instead, CWSs must distribute two press releases as opposed to the one required by the previous LCR.

Web Site Posting: Systems serving a population more than 100,000 persons must also post and keep information on their publicly-accessible Web site until the system tests at or below the action level.

Additional Outreach Activities: In order to make the public education as effective as possible, EPA is giving CWSs some flexibility in how they deliver their public education materials. Section 141.85(b)(2)(iv) requires CWSs to conduct additional outreach activities that they select from the following list in consultation with the State:

1. Public service announcements (PSAs)
2. Paid advertisements.
3. Public area informational displays.
4. E-mails to customers.
5. Public meetings.
6. Household deliveries.
7. Targeted individual customer contact.
8. Direct material distribution to all multi-family homes and institutions.
9. Other methods approved by the State.

Systems serving more than 3,300 people are required to select three additional public education activities from one or more organizations on this list. Refer to the next section for delivery requirements that are unique to small CWSs.

F.2.2 Requirements for CWSs Serving 3,300 or Fewer People

Realizing that small systems (those serving 3,300 or fewer people) may have difficulty in completing the public education delivery requirements, the Short-Term Revisions allows these systems to limit certain aspects of their public education program. These systems may limit delivery of public education materials and the informational notice to those places frequented by the most vulnerable populations without written approval from the State. EPA recognizes that small systems are typically aware of the constituents in their community and often have the capability to target specific populations through personal relationships. By removing the requirement to obtain State approval, this provision allows these systems to send public education materials to their vulnerable populations as soon as possible and reduces burden on both the system and the State.

In addition, EPA offers States the option to waive the press release requirements for small systems if they distribute notices to every household they serve. Further, these systems are required to implement a minimum of one of the nine additional outreach activities listed above and in §141.85(b)(2)(vi) as opposed to three for larger systems.

Exhibit II-5a. Revisions to Public Education Delivery Requirements for CWSs		
Revisions and Corresponding Paragraph in §141.85	Timing ¹⁻⁴	Applicability ⁵
<u>Bill Paying Customers:</u> <ul style="list-style-type: none"> • Deliver printed public education materials [(a)(2)(i)]. • Put new mandatory statement on or in water bills. <i>With State approval, PWS can change statement or delivery message.</i> [(a)(2)(iii)] 	<ul style="list-style-type: none"> • Within 60 days & repeating once every 12 months. • Within each billing cycle but no less often than quarterly. 	All CWSs
<u>Local Health Agencies (LHAs) [(a)(2)(ii)(A)]:</u> <ul style="list-style-type: none"> • Deliver printed public education material. • Provide “informational notice” that encourages LHAs to distribute materials to their at-risk customers. • Contact LHAs by phone or in person. • Request from LHAs, a list of additional community-based organizations serving target populations (may include those outside CWS’s service area). <i>Note: LHA may be outside CWS’s service area.</i>	Within 60 days and repeating once every 12 months.	All CWSs but those serving ≤ 3,300 people can limit distribution to facilities and organizations most likely to be regularly visited by pregnant women and children.
<u>Organizations within Service Area [(a)(2)(ii)(B)]:</u> Deliver printed public education materials and “informational notice” (see above description) to: <ul style="list-style-type: none"> • Public and private schools or school boards. • WIC and Head Start Programs. • Public and private hospitals and medical clinics. • Pediatricians • Family planning clinics. • Local welfare agencies. 		
<u>Other Organizations within Service Area [(a)(2)(ii)(C)]:</u> Make a “good faith” effort to identify* and deliver printed public education materials and “informational notice” to: <ul style="list-style-type: none"> • Licensed childcare centers. • Public and private preschools. • Obstetricians-Gynecologists and Midwives. <i>*Can include requesting a list of these organizations from LHDs but must deliver to ones outside service area if included on this list.</i>		
Submit press release to newspaper, television, and radio stations [(a)(2)(v)].	Twice every 12 months on a schedule approved by the State.	<ul style="list-style-type: none"> • CWSs serving > 3,300 people • With State permission, CWSs serving ≤ 3,300 people can distribute notices to every household instead.

Exhibit II-5a. Revisions to Public Education Delivery Requirements for CWSs		
Revisions and Corresponding Paragraph in §141.85	Timing¹⁻⁴	Applicability⁵
<p>Implement activities from at least one category from list below (a)(2)(vi):</p> <ul style="list-style-type: none"> • Public service announcements. • Paid advertisements. • Public area informational displays. • E-mails to customers. • Public meetings. • Household deliveries. • Targeted individual customer contact. • Direct material distribution to all multi-family homes and institutions. • Other methods approved by the State. <p><i>CWS must consult with State regarding education content and activity selection.</i></p>	<p>Within 60 days and repeating once every 12 months.</p>	<ul style="list-style-type: none"> • CWSs serving > 3,300 people must implement 3 activities. • CWSs serving ≤ 3,300 people must implement 1 activity.
<p>Post materials on CWS's Web site [(a)(2)(iv)]</p>	<p>Within 60 days and continuous posting.</p>	<p>CWSs serving > 100,000 people.</p>
<p>¹§141.85(a)(2) clarifies that for CWSs that are not already conducting public education, delivery must be conducted within 60 days after the end of the monitoring period in which the exceedance occurred.</p> <p>²§§141.85(a)(2)(vii) and (a)(4)(iii) defines the end of the monitoring period for CWSs and NTNCWSs, respectively, as September 30 of the calendar year in which the monitoring occurred or for systems on State-established alternate periods, the last day of that period.</p> <p>³§141.85(a)(3)(iv) allows the State to extend the 60-day requirement on a case-by-case basis.</p> <p>⁴The Revisions still require continued public education delivery until the system no longer has an action level exceedance.</p> <p>⁵“Special CWSs” such as hospitals and prisons may submit a written request to the State to follow NTNCWS delivery requirements (see Exhibit II.5b). States may waive the need for prior approval.</p>		

F.2.3 Requirements Applicable to NTNCWSs and “Special” CWSs

The Short-Term Revisions do not modify the delivery requirements for NTNCWSs (other than to change their federal citation). These systems must still display information posters on lead in drinking water in each of the buildings that they serve and distribute materials (State may allow distribution by e-mail) to each person they serve. The Revisions also retain the provision for “special CWSs”, such as prisons and hospitals, to apply to the State in writing (unless prior approval is waived) to use the same delivery requirements as NTNCWSs.

Exhibit II-5b. Revisions to Public Education Delivery Requirements for NTNCWSs		
Revisions and Corresponding Paragraph in §141.85	Timing ¹⁻⁴	Applicability ⁵
Post informational posters on lead in drinking water in a public place or common area in each of the buildings [(a)(4)(i)].	Within 60 days and repeat annually during each calendar year lead action level exceeded	NTNCWSs and “Special CWSs”
Distribute informational pamphlets and/or brochures on lead in drinking water to each person served by the NTNCWS. <i>States may allow use of electronic transmission in lieu of or in combination with printed materials.</i> [(a)(4)(ii)]		NTNCWSs and “Special CWSs”
¹ §141.85(a)(4) clarifies that for NTNCWSs that are not already conducting public education, delivery must be conducted within 60 days after the end of the monitoring period in which the exceedance occurred. ² §141.85(a)(2)(viii) defines the end of the monitoring period as September 30 of the calendar year in which the monitoring occurred or for systems on State-established alternate periods, the last day of that period. ³ §141.85(a)(5) allows the State to extend the 60-day requirement on a case-by-case basis. ⁴ “Special CWSs” such as hospitals and prisons may submit a written request to the State to follow NTNCWS delivery requirements listed above. States may waive the need for prior approval.		

F.3 Timing

The Short-Term Revisions retain the requirement for water systems that exceed the lead action level and are not already conducting public education to complete required activities within 60 days after the end of the monitoring period in which the exceedance occurred. However, §§141.85(b)(3)(iv) and (b)(5) of the Revisions allow States to extend the timeframe for CWSs and NTNCWSs, respectively, to complete the public education activities on a case-by-case basis if the water system has initiated these activities and the extension is approved in writing by the State in advance of the 60-day deadline. This ensures that the system and the State begin public education actions to reduce exposure as soon as possible, but allows these actions to continue past the 60-day timeframe on a case-by-case basis as needed for effective implementation.

As illustrated in Exhibits II-4a and II-4b, most public education requirements must be repeated annually until the system no longer exceeds the lead action level. Some activities must be conducted more frequently as follows:

- CWS provide the mandatory informational statement on or in water bills with each billing cycle but no less frequently than quarterly;
- CWSs must deliver press releases twice every 12 months on a schedule agreed upon with the State; and
- CWSs serving more than 100,000 people must retain material on their publicly-accessible Web site.

F.4 CCR

The Short-Term Revisions revise the requirements of the CCR Rule in §141.154. Previously, all water systems that detected lead above the action level in more than 5 percent of the homes sampled had to include a short informational notice about lead in their CCR. EPA is requiring all CWSs to

provide information in their CCRs on lead in drinking water irrespective of whether the system detected lead in any of its samples.

EPA believes that exposure to lead can be a localized phenomenon and has revised the rule based on concerns that exposure to lead may be taking place, even though the action level is not exceeded; consumers, therefore, currently may not receive sufficient information on how to reduce their exposure to lead.

This short educational statement will help to ensure that all vulnerable populations or their caregivers receive information (at least once a year) on how to reduce their risk to lead in drinking water (see Exhibit II-5c for this statement). EPA incorporated NDWAC's recommended changes to the informational notice, which clarify the risk of lead in drinking water, include basic steps on how to reduce exposure to lead in drinking water, and provide sources of additional information. Additionally, requiring all systems to have one statement will simplify compliance with this provision of the rule for the systems and the States. However, the CCR revisions allow a system to write its own educational statement, but only in consultation with the State. For example, the system may wish to revise the flushing time of "30 seconds to 2 minutes" if it conflicts with the flushing information in its public education materials.

Exhibit II-5c. Short Informational Statement

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. *[NAME OF UTILITY]* is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

G. Reevaluation of Lead Service Lines

Lead service line replacement is intended as an additional step to reduce lead exposure when corrosion control treatment is unsuccessful. The provision in §141.84(c), allows systems to leave in place an individual lead service line if the lead concentration in all service line samples from that line is less than or equal to 0.015 mg/L. It is intended to maximize the exposure reduction achieved per service line replaced by avoiding the disruption and cost of replacing lines that are not leaching elevated levels of lead. However, samples taken from a lead service line cannot predict future conditions of the system or of the service line. Systems can discontinue a lead service line replacement program by meeting the lead action level for two consecutive 6-month monitoring periods.

The Short-Term Revisions require water systems to reconsider any lines previously determined to not require replacement (i.e., “replaced through testing”) if they exceed the action level again in the future and resume the lead service line replacement program. Specifically, the newly added subsection (2) in §141.84(b) requires water systems to update their inventory of lead service lines to include those that were classified as “replaced through testing.” The system will then divide the updated number of remaining lead service lines by the number of remaining years in the program to determine the number of lines that must be replaced per year (see example to the right). In the event that a system has completed a 15-year replacement program (or completed replacement on an accelerated schedule), the State will determine a schedule for replacing or retesting lines that were previously tested out under the replacement program when the system exceeds the action level again.



EXAMPLE - Reconsidering Lines “Replaced through Testing”

A PWS completed 2 years of replacement prior to resuming lead service line replacement. In that 2-year period, 7 of the 50 lead service lines in the system’s inventory were considered “replaced through testing.” It is on a 15-year replacement program and has still 50 lead service lines in its inventory to be considered (because it must include those previously considered “replaced through testing”). The PWS is required to replace 50 lines over 13 years or approximately 4 lines per year. Note that any retested or newly tested lines that are at or below 0.15 mg/L are considered replaced.

F.Y.I.

A PWS must reconsider and retest the lines “replaced through testing” each time it is required to resume its lead service line program.

H. Other Issues Related To the LCR

In the July 18, 2006 proposed Short-Term Revisions (137 FR 40828), EPA requested comment on the following four areas for which the Agency has decided not to make any further rule changes: plumbing component replacement; point-of-use (POU) and point-of-entry (POE) treatment; site selection in areas with water softeners and POU treatment units; and synchronization of WQP monitoring. Each of these is discussed in more detail below.

H.1 Plumbing Component Replacement

EPA requested comment as to whether plumbing replacement should be specifically defined as a corrosion control technique, or explicitly identified as an alternative to corrosion control optimization for small and medium systems. EPA also requested comment on whether 12 months is sufficient time for a small or medium system to replace plumbing components and proposed to allow 24 months to complete the replacement before the State would determine if these systems must conduct a corrosion control study.

EPA also listed a number of questions that would need to be resolved before listing plumbing component replacement as a corrosion control technique or an alternative to corrosion control as follows:

1. What materials should be used for replacement materials, since “lead-free” products still contain lead?
2. What components would be replaced—just end-point devices such as faucets or would it also include in-line devices, such as valves and water meters?
3. What would be the enforceable WQPs for this alternative to corrosion control?
4. How would excursions from the OWQPs be measured?
5. If these techniques are listed under §141.81(c)(1) as corrosion control techniques, would all systems need to evaluate them as part of the corrosion control study?
6. For systems that fail to meet the action level, would the State still need to specify the minimum pH values, even though the system may not be adjusting pH?

Some water systems may choose to replace plumbing fixtures, pipes, and components to greatly reduce the amount of lead or copper in tap water to a level below the action level. Generally this approach only applies to water systems that have 100% ownership over the plumbing infrastructure (e.g., some NTNCWSs such as schools and other institutions). Small or medium water systems can use fixture replacement with existing provisions of the LCR to become optimized. Under §141.81(b)(1), these systems are deemed to have optimized corrosion control if they meet the lead and copper action levels during each of two consecutive six-month monitoring periods conducted in accordance with §141.86. Thus, water systems, where 100% of the plumbing fixtures and components are directly controlled by the system, could replace them and be optimized once the system met the action level for two consecutive six-month monitoring periods.

However, because fixture replacement is not currently a type of corrosion control treatment, when a system exceeds the action level, it must initiate the treatment steps under §141.81(e) that require the evaluation of corrosion control options and the recommendation of optimal corrosion control treatment. EPA believes that there is sufficient flexibility under the current rule for systems that replace plumbing to qualify as optimized under §141.81(b)(1) without having to undertake an unnecessary evaluation of corrosion control options. Under Section 141.81(e)(2), after an initial action level exceedance, the system has 12 months (or two monitoring periods) before the State makes a determination about requiring a corrosion control study. Under Section 141.81(e)(2)(ii), where the State does not require a system to conduct a corrosion control study, a system has 24 months after the action level exceedance (or four monitoring periods) before the State specifies optimal corrosion control treatment. As a result, a water system could replace the plumbing and

conduct monitoring to demonstrate that it is below the action level for two consecutive six-month monitoring periods within this 24-month period, although to do this, they would have to complete the plumbing replacement within 12 months of exceeding the action level.

In the final Rule, EPA decided not to list a fixture replacement strategy as optimal corrosion control for several reasons. As stated above, EPA believes that there is sufficient flexibility under the existing rule for some systems to pursue a fixture replacement strategy without having to undertake unnecessary treatment evaluation. Further, fixture replacement may not be successful in reducing lead below the action levels if some lead sources remain in the plumbing system. In addition, plumbing fixture replacement is not a corrosion control technique and therefore, would not have OWQPs that could be set by the State if the system continued to exceed the action level.

H.2 Point-of-Use and Point-of-Entry Treatment

EPA requested comment as to whether use of POU or POE devices should be specifically defined as a corrosion control technique, or explicitly identified as an alternative to corrosion control optimization for small systems. EPA also requested comment on whether 12 months is sufficient time for a small system to install POU devices and proposed to allow 24 months to complete this installation before additional corrosion control treatment steps would be required. Further, EPA identified similar questions to those identified for fixture replacement that would need to be resolved before listing POU or POE as an alternative to corrosion control (refer to questions 3 through 6 on previous page).

The SDWA identifies POU and POE devices as potential compliance technologies for small systems if they meet the following requirements: 1) they are owned, controlled and maintained by the PWS or its contractor to ensure proper operation and maintenance and compliance with the treatment technique; 2) they are equipped with mechanical warnings to ensure that customers are automatically notified of operational problems; and (3) if the American National Standards Institute (ANSI) has issued product standards applicable to a specific type of POU or POE treatment unit, individual units of that type will not be accepted for compliance with a treatment technique requirement unless they are independently certified in accordance with such standards.

EPA believes that small systems can use POU or POE devices, if they meet the SDWA requirements discussed above for their use, to comply with the LCR under existing provisions of the rule. Under §141.81(b)(1), a small or medium-size system is deemed to have optimized corrosion control if the system meets the lead and copper action levels during each of two consecutive six-month monitoring periods conducted in accordance with §141.86. Thus, small water systems where POU devices are installed and meet the SDWA requirements could be optimized once the system met the action level for two consecutive six-month monitoring periods after their installation at all sites. Although small water systems can use POU or POE devices to meet the lead or copper action level, this method of compliance is not specified in the current LCR as a corrosion control technique. As a result, the same issue arises as discussed above with respect to plumbing replacement.

EPA decided not to list POU or POE installation as optimal corrosion control treatment for several reasons. First, EPA believes that sufficient flexibility exists under the current rule for small systems to utilize POU or POE devices to meet the action level and be deemed optimized under

§141.81(b)(1). Where a State does not require a corrosion control study, systems have 24 months after an action level is exceeded before the State specifies optimal corrosion control treatment. POU or POE installation would need to be completed within 12 months of exceeding the action level in order to complete two consecutive six-month monitoring periods before the State specifies optimal corrosion control. In those instances where a study is required, small systems have a maximum of 36 months after an action level is exceeded before the State specifies this treatment. Second, unless the POU option was limited to only those systems that control 100% of the distribution system, the system may not be able to secure participation from all sites and may need to install corrosion control. Third, EPA is concerned that lead-containing plumbing materials (e.g., faucets, solder joints) may be in place after the POE device and could still contribute high lead levels if the water is corrosive.

H.3 Site Selection in Areas with POE and POU Treatment Units

Many homes have whole house (POE) water softeners or treatment units at the kitchen tap (POU), even though the system is not installing and maintaining these units. Section 141.86(a)(1) states that sampling sites may not include faucets that have POU or POE treatment devices designated to remove inorganic contaminants. However, some areas of the country may find that the prevalence of POE water softeners restricts the ability of the water system to find homes where these units are not installed. This scenario is discussed in EPA's *Lead and Copper Rule Guidance Manual Volume 1: Monitoring* that was published in September 1991. Figure 3-2 in that manual described preferred sampling pool categories for targeted sampling sites. Category F.2 was listed as an exception case for water systems that only have sites where water softeners have been installed. This situation has been observed in the mid-western United States. The guidance states that these systems should select the highest risk sites (newest lead solder or lead service lines) and monitor at those locations even though the water softener is present.

EPA requested public comment on whether the LCR should be amended to allow sampling at locations with POU/POE devices used to remove inorganic contaminants in exceptional cases (such as systems with high prevalence of water softeners), and if so, how high risk sites in these locations should be identified. EPA specifically requested comment on whether the Agency should codify the guidance provision discussed above.

EPA decided not to revise the LCR with respect to monitoring at sites with POE and POU devices. The Agency has decided that the current §141.86(a)(5) provides flexibility as follows, "A community water system with insufficient tier 1, tier 2, and tier 3 sampling sites shall complete its sampling pool with representative sites throughout the distribution system. For the purpose of this paragraph, a representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the water system." A comparable provision for NTNCWS is provided in §141.86(a)(7). EPA believes that the current rule provisions and guidance on this issue are sufficient at this time.

H.4 Synchronization of Monitoring

The final issue on which EPA requested comment was synchronization of WQP sampling with lead and copper tap sampling. Large systems would be required to take their required lead and copper samples at the same time they take their required WQP samples. Small and medium systems would

be required to synchronize this monitoring during those monitoring periods in which they are required to collect WQP samples after the State sets OWQPs. This synchronization would allow water systems to associate changes in WQP levels with lead and copper levels and help systems monitor the effectiveness of their corrosion control program.

While many commenters supported the scientific rationale for this proposed change, a number of comments received expressed concern over which synchronization timeframe would be appropriate and the feasibility of implementing a synchronized sampling approach. Several large systems noted that this synchronization would be difficult to coordinate because homeowners collect the lead and copper tap samples and the utility does not know the exact date that they will collect samples. Some commenters noted that current WQP sampling requirements for systems on reduced monitoring require these systems to take their WQP samples throughout the year in order to capture seasonal variability. Also, because WQP monitoring for small and medium systems may be limited to those monitoring periods during which the water systems exceed an action level, these systems often delay WQP monitoring until lead and copper tap monitoring has been completed and the 90th percentile level has been calculated. Due to the complexity of issues, challenges with implementation, and potential burden, EPA has decided not to revise the LCR to require WQP synchronization at this time, but will revisit this issue in future revisions to the rule.

SECTION III: STATE REPORTING REQUIREMENTS AND SNC DEFINITIONS

This section provides an explanation of how the State reporting requirements have been revised in response to the Short-Term Revisions and an overview of the SNC definitions for the LCR.

A. Summary of Revised State Reporting Requirements

The purpose of this summary is to provide State agencies with an understanding of how their reporting requirements have been impacted by the Short-Term Revisions. This guidance updates some of the reporting requirements presented in Appendix B of the October 2001 *State Implementation Guidance for the Lead and Copper Rule Minor Revisions* (EPA 816-R-01-021).

F.Y.I.

A copy of the October 2001 guidance can be downloaded at
<http://www.epa.gov/safewater/lcmmr/compliancehelp.html>

A.1 How Have State Reporting Requirements Changed?

The Short-Term Revisions have minimally impacted State reporting requirements. To address these revisions, EPA has added one new violation type (to bring the total to 11) and revised the violation definitions for three violation types. EPA has not revised any of the milestone reporting requirements. These reporting changes are discussed in more detail below.

New Violation Code: EPA has added a new violation code to identify those water systems that do not meet the lead consumer notice requirements. Specifically, §§141.80(g) and 141.85(d) require water systems to provide consumer notification of lead tap water monitoring results to individuals served at sites that were tested within 30 days of learning the results. Section 141.90(f)(3) requires systems to submit to the State a copy of the lead consumer notification and a certification that the notification meets the delivery requirements of §141.85(d) within 3 months after the end of the monitoring period. Systems that fail to meet the timing, content, and delivery requirements of §141.85(d) or reporting requirements in 141.90(f)(3) will be in violation of the lead consumer notice requirements.

It is important to keep in mind that although the requirements for consumer notification are included under §141.85, they are considered separate from public education requirements. All systems regardless of whether they have a lead action level exceedance must conduct this notification. A violation of these requirements constitutes a separate violation from those systems that do not meet the public education requirements. In addition, a lead consumer notice violation is a type of M/R violation; whereas a public education violation is a treatment technique (TT) violation.

Exhibit III-1 provides an explanation of the violation type code, contaminant code, and definition for a lead consumer notice violation. An example of how to report this violation to EPA's Safe Drinking Water Information Systems/Operational Data System (SDWIS/ODS) follows this table.

Exhibit III-1. Consumer Notification Violation			
Violation Type Code	Contaminant Code	Violation Name	Definition
05	5000	Lead Consumer Notice	Failure to meet any of the following: <ul style="list-style-type: none"> • Provide notice of lead results to individuals served by taps used for lead and copper tap monitoring in accordance with §141.85(d)(1); • Meet the timing requirements for providing the notice in accordance with §141.85(d)(2); • Meet the content requirements in §141.85(d)(3); • Meet the delivery requirements in §141.85(d)(4); and • Meet the reporting requirements in §141.90(f)(3).

Example: A water system (BA0212600) is on reduced monitoring and collects tap samples on June 10, 2009 and receives results from the laboratory on July 15, 2009. None of the lead results are above 0.015 mg/L. The water system, regardless of the lead results, is required to provide individual lead tap results to people who receive water from sites that were sampled within 30 days after it learns of the tap monitoring results or by August 14, 2009 in this example. The notice must include the lead tap water monitoring results; an explanation of the health effects of lead; steps consumers can take to reduce exposure to lead in drinking water; water utility contact information; the MCLG and the action level for lead and their definitions from the CCR Rule. In addition, the water system is required to mail a sample copy of the consumer notification of tap results and a certification that they met the distribution requirements to the State within 3 months following the end of the monitoring period (June 1 - September 30), or December 31, 2009 in this example.

The water system provides the required notice to its customers on January 10, 2010 and a copy of its certification and sample notice to the State on April 1, 2010. The system is in violation of the lead consumer notice requirement because it is late in delivering its notice to its consumers as required under §141.85(d)(2), as well as its certification and notice to the State under §141.90(f)(3).

Although the system is in violation of its delivery requirements to its consumers and reporting requirements to the State, the State would report a single violation to EPA. In this example, the State would become aware of the violation on December 31, 2009, when the system failed to submit its consumer notification and certification. The State would report the violation by February 15, 2009 (i.e., 45 days after the State becomes aware of the violation). The begin date of the violation is *the first day after the 30-day consumer notice deadline*. In this example, the system was required to deliver the consumer notice by August 14, 2009; therefore, the begin date is August 15, 2009. If the system had met its delivery requirements to its consumers but did not meet the December 31 deadline in this example, the begin date of the violation would still be August 15, 2009 (i.e., do not use a begin date of the first day after the 3-month reporting requirement to the State or January 1, 2010 in this example).

Exhibit III-2 illustrates how this violation would be reported to SDWIS/ODS using the eXtensible Markup Language (XML) data format.

Exhibit III-2. Lead Consumer Notice Violation XML Data Format		
XML Opening Tag	Data Value	XML Closing Tag
<sdwis:Violations>		
<sdwis:ViolationDetails>		
<sdwis:PWSIdentifier>	BA0212600*	</sdwis:PWSIdentifier>
<sdwis:ViolationIdentifier>	0100121*	</sdwis:ViolationIdentifier>
<sdwis:ViolationTypeCode>		
<sdwis:SDWAViolationTypeCode>	05	</sdwis:SDWAViolationTypeCode>
		</sdwis:ViolationTypeCode>
<sdwis:ViolationAnalyteCode>		
<sdwis:SDWAViolationAnalyteCode>	5000	</sdwis:SDWAViolationAnalyteCode>
		</sdwis:ViolationAnalyteCode>
<sdwis:CompliancePeriodDetails>		
<sdwis:CompliancePeriodBeginDate>	2010-08-15*	</sdwis:CompliancePeriodBeginDate>
<sdwis:CompliancePeriodEndDate>		</sdwis:CompliancePeriodEndDate>
		</sdwis:CompliancePeriodDetails>
		</sdwis:ViolationDetails>
		</sdwis:Violations>
*These data values are unique to each violation.		

As is true for most LCR violations, SDWIS/ODS defaults to an arbitrary end date of December 31, 2015 for this violation. The date will automatically be replaced when the State reports the date that the system has “returned to compliance.” This action is reported as an SOX (State) or less commonly by EPA as EOX (federal) action type. The period of violation would be ended when either the SOX/EOX actions are reported and linked to the violation. In this example, the system returned to compliance on April 1, 2010, when it submitted its notice and certification to the State. Note: If the system returns to compliance before the violation is required to be reported, do not use the end date of December 31, 2015. For example, if the system had provided the consumer notice on January 10, 2010 and submitted the required notice and certification to the State on February 1, 2010 (and the violation is reported to EPA on February 15, 2010), the end date of 2010-02-01 should be used.

A.2 Which Violation Definitions Have Been Revised?

The October 2001 LCRMR reporting guidance provided definitions for each of the 10 pre-existing violation types. In addition, to the new lead consumer notice violation, the Short-Term Revisions impact the violation definitions for following three violation types: follow-up or routine lead and copper M/R (52), study/treatment recommendation (57), and public education (65).

Exhibit III-3 below provides a comprehensive list of LCR violation definitions including the new lead consumer notice violation. Those violation types that have been revised are shaded in blue.

Exhibit III-3. LCR Violation Definitions as Revised by the Short-Term Revisions

LEAD CONSUMER NOTICE (Violation Code: 05) NEW

Failure to meet any of the following:

- Provide notice of lead results to individual served by taps used for lead and copper tap monitoring in accordance with §141.85(d)(1);
- Meet the timing requirements for providing the notice in accordance with §141.85(d)(2);
- Meet the content requirements in §141.85(d)(3);
- Meet the delivery requirements in §141.85(d)(4); or
- Meet the reporting requirements in §141.90(f)(3).

INITIAL LEAD AND COPPER TAP M/R (Violation Code: 51)¹

Failure to meet any of the following:

- Use appropriate sampling procedures in accordance with §§141.86(a) and (b);
- Collect the required number of samples during the specified time frame in accordance with §§141.86(c) and (d)(1);
- Ensure samples are analyzed properly in accordance with §141.89(a), **or**
- Submit all required monitoring information on time in accordance with §141.90(a).

If you adopted the LCRMR sample invalidation and monitoring waivers provisions, the violation definition also includes systems that:

- Did not meet replacement sample requirements for invalidated samples as described in §141.86(f)(4) where these samples are needed to meet minimum sampling requirements;
- Did not meet the conditions of their monitoring waivers in §141.86(g) or provide required information in §§141.90(a)(4)(i)-(iv);²
- Did not provide sample information needed for you to perform the 90th percentile calculation as outlined in §141.90(h); **or**
- Collected non-first draw samples that did not meet the criteria in §141.86(b)(5).

¹This violation type is no longer applicable to most systems and now only applies to new systems or system that were not previously required to conduct lead and copper tap monitoring.

²The October 2001 reporting guidance incorrectly listed the citation as §§141.90(a)(4)(ii) – (iv).

FOLLOW-UP OR ROUTINE LEAD AND COPPER TAP M/R (Violation Code: 52)

Failure to meet any of the following:

- Use appropriate sampling procedures in accordance with §§141.86(a) and (b);
- Collect required number of samples during the required time frames in accordance with §§141.86(c) & (d)(2)-(4);
- Ensure samples are analyzed properly in accordance with §141.89(a);
- Submit all required monitoring information on time in accordance with §141.90(a);
- Did not meet replacement sample requirements for invalidated samples as described in §141.86(f)(4) where these samples are needed to meet minimum sampling requirements, *if your regulations include this provision*;
- Did not meet the conditions of their monitoring waivers in §141.86(g) or provide required information in §§141.90(a)(4)(i)-(iv), *if your regulations include this provision*;
- Did not provide sample information needed for you to perform the 90th percentile calculation as outlined in §141.90(h);
- Collected non-first draw samples that did not meet the criteria in §141.86(b)(5), *if your regulations include this provision*;
- For systems on reduced monitoring, failure to report a long-term change in treatment, or an addition of a new source, within the time frame which you specify or as early as possible in accordance with §§141.81(b)(3)(iii), 141.86(d)(4)(vii), 141.86(g)(4)(iii), & 141.90(a)(3), *if your regulations include this provision*;
- Failure to receive prior State approval before implementing the long-term change or adding the new source in accordance with §§141.81(b)(3)(iii), 141.86(d)(4)(vii), 141.86(g)(4)(iii), & 141.90(a)(3), *if your regulations include this provision*; or
- For systems on reduced monitoring, and placed on alternate lead and copper tap schedules, failure to meet the monitoring deadline when transitioning to the alternate period, *if your regulations include this provision*.

Exhibit III-3. LCR Violation Definitions as Revised by the Short-Term Revisions

INITIAL, FOLLOW-UP, OR ROUTINE WQP M/R (Violation Code: 53)

Failure to meet any of the following:

- Use appropriate sampling procedures in accordance with §§141.87(a)(1), (b)-(e);
- Collect required number of samples in accordance with §141.87(a)(2) or (e);
- Ensure samples are analyzed properly in accordance with §141.89(a); **or**
- Submit all required monitoring information on time in accordance with §141.90(a)

If you adopted the LCRMR provision that allowed representative WQP monitoring for ground water systems, the definition also includes ground water systems that:

- Did not meet their State-approved sampling plan for collecting WQPs at representative entry point locations in accordance with §§141.87(a)(5) & (c)(2).

INITIAL, FOLLOW-UP, OR ROUTINE SOURCE WATER M/R (Violation Code: 56)

Failure to meet any of the following:

- Use appropriate sampling procedures in accordance with §§141.88(a)(1) and (2);
- Collect required number of source water samples in accordance with §§141.88(a)(1) - (e)(3);
- Ensure samples are analyzed properly in accordance with §141.89(a); **or**
- Submit all required sampling information on time in accordance with §141.90(b).

STUDY/ TREATMENT RECOMMENDATION (Violation Code: 57)

For an OCCT Study/Recommendation violation, failure to meet any of the following:

- Submit an OCCT recommendation on time in accordance with §§141.82(a) and 141.90(c)(2);
- Submit an “acceptable” study on time in accordance with §§141.82(c) and 141.90(c)(3); **or**
- Provide additional information needed by the State to make an OCCT determination in accordance with §141.82(d)(2).

For an SOWT Recommendation violation, failure to meet the following:

- Submit a SOWT recommendation no later than 180 days after the end of the monitoring period during which the lead or copper action level was exceeded in accordance with §§141.83(a)(1) & 141.90(d)(1).

TREATMENT INSTALLATION/DEMONSTRATION (Violation Code: 58)

For an OCCT Installation violation, failure to meet any of the following:

- Have the State-designated treatment properly installed and operating in accordance with §141.82(e);
- Submit a certification of proper installation and operation in accordance with §141.90(c)(4), **or**
- Demonstrate that OCCT already exists in accordance with §§141.81(b)(1)-(3) and 141.90(c)(1).

For an SOWT Installation violation, failure to meet any of the following:

- Properly install and operate SOWT in accordance with §§141.83(b)(3) and (5), **or**
- Submit certification to the State of proper SOWT installation and operation, in accordance with §141.90(d)(2).

WQP ENTRY POINT or TAP NONCOMPLIANCE (Violation Code: 59)

Failure to:

- Maintain OWQP minimum or ranges in accordance with §141.82(g).

If you adopted the OWQP compliance method from the LCRMR, the violation definition also includes failure to:

- Meet daily values for more than 9 days in a 6-month monitoring period in accordance §141.82(g).

MAXIMUM PERMISSIBLE LEVEL (MPL) NONCOMPLIANCE (Violation Code: 63)

Failure to:

- Meet either State-designated or approved MPL in accordance with §141.83(b)(5).

Exhibit III-3. LCR Violation Definitions as Revised by the Short-Term Revisions

LEAD SERVICE LINE REPLACEMENT (LSLR) (Violation Code: 64)

Failure to meet any of the following:

- Replace the required amount of lead service lines (LSLs) by the annual deadline, in accordance with §§141.84(a) & (b); **or**
- Report the required LSL information on time, in accordance with §141.90(e) that demonstrates that the replacement rate was met.

In cases of where the system does not replace the entire LSL (i.e., “partial LSLR replacement”), the LCRMR expanded the definition to include failure to:

- Provide notice and guidance to residents at least 45 days before LSLR begins (unless you allow a shorter notification period);
- Collect a tap sample within 72 hours of completing the partial LSLR;
- Mail and/or post results of the analysis to the owner and residents within 3 days of receipt of the results; **or**
- Report information that you deem necessary to assess whether the system met its partial LSLR monitoring and notification requirements.

PUBLIC EDUCATION (Violation Type: 65)

Failure to meet any of the following:

- Provide public education that meets the content requirements in §§141.85(a);
- Meet the public education delivery requirements of §141.85(b).
- Report required public education information on time, within 10 days after the end of the period in which public education was required, in accordance with §141.90(f)(1) & (2).

B. Significant Noncompliers (SNCs)

B.1 What is a SNC?

A Significant Noncomplier (SNC) is a system that has more serious, frequent, or persistent violations. The SNC designation is reserved for those systems that are considered to pose the most serious threats to public health.


B.2 Have the SNC Definitions Been Revised as a Result of the Short-Term Revisions?

The Short-Term Revisions do not affect the three SNC types or their definitions.

B.3 What Are the SNC Definitions for the Three SNC Types?


Exhibit III-4 lists the three types of SNCs, the system to which these SNCs apply, and their corresponding definitions.

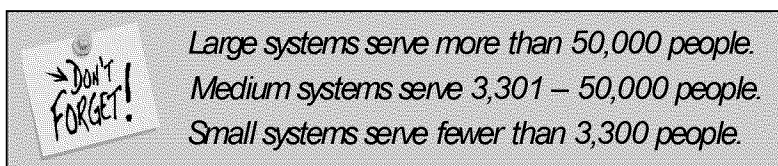
Exhibit III-4. Lead and Copper Rule SNC Definitions		
SNC Type	Systems Affected	Definition
Initial lead and copper M/R	All System Sizes	A system which failed to meet all monitoring and reporting requirements
Installation/Demonstration (OCCT and/or SOWT)	Only systems with 90 th percentile lead levels of \geq 0.030 mg/L	System with this violation & 90 th percentile lead level of \geq 0.030 mg/l in the most recent monitoring period
Public Education	Only systems with 90 th percentile lead levels of \geq 0.030 mg/L	System with this violation & 90 th percentile lead level of \geq 0.030 mg/l in the most recent monitoring period

 *A system that does not meet its lead consumer notice requirements would be assigned an "05" violation and would not become an SNC.*



SECTION IV: REVISIONS BY RULE SECTION

This section provides a summary of those rule provisions that have been revised by the LCR Short-Term Revisions and is organized by federal rule section (e.g., §141.80). A more detailed explanation of the Revisions was provided in Section II. In addition, Appendix B provides the verbatim rule language of the Short-Term Revisions compared to the previous LCR language.

The provisions of the Short-Term Revisions fall into two general categories: 1) those provisions that States must adopt to retain primacy because they are more stringent than the current requirements and; 2) those that are not more stringent, but allow flexibility and improvements in implementation. The latter revisions are identified below with the symbol . This designation is also used in the Primacy Revisions Crosswalk in Appendix A. States are not required to adopt these changes to maintain primacy. However, some States may not be able to implement these changes until they update their own regulations.



Section 141.80 General Requirements

-  **(a)(2):** Deletes effective dates of the LCR that no longer apply.
-  **(c)(3)(v):** New section, which specifies for PWSs that collect fewer than 5 tap water samples (allowed under §141.86(c)), the 90th percentile level is the highest sample result.
- (g):** Requires systems to provide a consumer notice of lead tap water monitoring results to all consumers served by those tested taps.

Section 141.81 Applicability of Corrosion Control Treatment Steps to Small, Medium-Size and Large Water Systems

- (b)(3)(iii):** Limits the notification of a treatment change by water systems that are deemed to have optimized corrosion control to “upcoming long-term treatment changes.” Adds a new requirement for the State to review and approve the addition of a new source or long-term change in treatment before the system can implement the addition or change.
- (e)(1):** Clarifies that a system exceeding an action level must recommend optimal corrosion control treatment within six months after *the end of the monitoring period during which* it exceeds an action level.
- (e)(2):** Clarifies that the State must decide whether a system is required to conduct a corrosion control study no later than 12 months after *the end of the monitoring period during which* the system exceeds an action level.

(e)(2)(i): Clarifies that for medium-size systems that are not required to conduct corrosion control studies, the State will specify optimal corrosion control treatment within 18 months after *the end of the monitoring period during which* the system exceeds an action level.

(e)(2)(ii): Clarifies that for small systems that are not required to conduct corrosion control studies, the State will specify optimal corrosion control treatment within 24 months after *the end of the monitoring period during which* the system exceeds an action level.

Section 141.82 Description of Corrosion Control Treatment Requirements

The Short-Term Revisions do not modify the provisions in this section.

Section 141.83 Source Water Treatment Requirements

(a): Clarifies the deadline for completing initial lead and copper source water monitoring and making a treatment recommendation to the State. The new language requires these activities to be completed no later than 180 days after the end of the monitoring period during which an action level was exceeded instead of within 6 months of an action level exceedance.

Section 141.84 Lead Service Line Replacement Requirements

(b)(1): Clarifies that the first year of lead service line replacement begins on the first day following *the end of the monitoring period in which* the action level was exceeded. Also specifies that for systems that exceeded the lead action level while on a reduced monitoring schedule, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs, or for systems on a State-specified alternate lead and copper tap monitoring period, the end of the monitoring is the last day of that period.

(b)(2): Section 141.84(c) allows water systems to test the lead concentration of an individual lead service line. If the lead concentration in all service line samples from that line does not exceed 0.015 mg/L, the system is not required to replace this line and the line counts as being replaced. The new paragraph (b)(2) requires systems that resume a lead service line replacement program to update their lead service line inventory to include those sites that previously were deemed “replaced through testing”. Paragraph (b)(3) also requires systems to divide the updated number of remaining lead service lines by the number of remaining years in the replacement program to determine the number that must be replaced per year. If a system has completed a 15-year or an accelerated lead service line replacement program, the State will determine a schedule for replacing or retesting lines.

(f): Updates the paragraph to reference the newly added §141.84(b)(2).

Section 141.85 Public Education and Supplemental Monitoring Requirements

Introductory text: Adds a requirement for all water systems (including those with 90th percentile lead samples at or below the lead action level) to provide a consumer notice of the lead tap water monitoring results to all individuals served by the sites from which samples were collected. Also

references the requirement in paragraph (c), *Supplemental monitoring and notification results*, which require PWSs that exceed the lead action level to sample the tap water of any consumer who requests it.

(a)(1): Requires CWSs and NTNCWSs to follow the same requirements regarding the content of written public education materials in paragraph (a)(1). Previously, separate CWS and NTNCWS public education content requirements were specified in paragraphs (a)(1) and (a)(2), respectively, and specific broadcast language for CWSs was provided in paragraph (b). The Revisions also require systems to include mandatory language as written in paragraphs (a)(1)(i) (opening statement), (ii) (health effects of lead), and (vi) (contact information), and system-specific information for the text in brackets in these paragraphs. Specifies that non-mandatory language be in plain language that can be understood by the general public and be consistent with the requirements in paragraphs (a)(1)(i) through (vi). Adds a requirement for systems to submit written public education materials to the State prior to delivery and allows the State to require approval of these materials prior to delivery.

(a)(1)(i): Replaces the “Introduction” with a mandatory opening statement that stresses the importance of reading the public education materials.

(a)(1)(ii): Revises the mandatory health effects language to provide greater specificity on the health problems that can result from exposure to lead.

(a)(1)(iii)(A)-(C): Replaces the mandatory “Lead in drinking water” language with suggested topics that explain sources of lead in drinking water. These topics include: an explanation of what lead is, possible sources of lead in drinking water and how lead enters it (including information on lead-containing plumbing materials), and other important sources of lead in addition to drinking water (e.g., paint).

(a)(1)(iv)(A)-(E): Replaces the mandatory “Steps you can take to reduce your exposure to lead in drinking water” language with suggested topics that explain these steps. Recommended steps to include are: flushing the tap, concerns about using hot water (especially for preparing baby formula), explaining that boiling water does not reduce lead levels, use of alternate sources or treatment, and testing children’s blood for lead.

(a)(1)(v): Requires public education materials to explain the reason(s) for elevated levels of lead in the system’s drinking water (if known) and steps the water system is taking to reduce the lead levels in homes/buildings.

(a)(1)(vi): Revises the mandatory contact information to be included in public education materials that was previously specified in paragraphs (a)(1)(iv)(D) and (a)(2)(iv)(D).

(a)(2)(i) & (ii): Specifies additional language requirements for CWSs that include: how consumers can get their water tested; lead in plumbing components; and the difference between low-lead and lead-free materials. Note that under the previous LCR, §141.85(a)(2) contained the mandatory NTNCWS public education language.

(b): Deletes the mandatory language requirements for broadcast materials and replaces this language with revised public education delivery requirements that were previously specified in §141.85(c).

(b)(1): Requires the public education materials of systems that serve a large proportion of non-English speaking consumers, as determined by the State, to include information in the appropriate language(s) regarding the importance of the notice, or where they may obtain a translated copy of the public education materials or request assistance. Previously, systems were required to provide public education materials in other languages in those communities where a significant proportion spoke a language other than English.

(b)(2): Clarifies when public education materials must be delivered for CWSs that exceed the lead action level and are not already repeating public education tasks. These systems must deliver public education materials within 60 days after *the end of the monitoring period in which* the exceedance occurred.

(b)(2)(i): Specifies that CWSs must deliver public education materials to all bill-paying customers.

(b)(2)(ii)(A): Expands delivery of public education materials to local public health agencies (including those outside of the CWS's service area). The materials must be accompanied by an informational notice that encourages the agencies to distribute these materials to their potentially affected customers or the CWS's users. The CWS also must contact these agencies in person or by phone to request a specific list of additional community-based organizations serving target populations, which may include organizations outside the service area of the water system. If a list is provided, the CWS must deliver public education materials to all organizations on the provided lists. Note: Previously, this paragraph contained the requirement for CWSs to provide newspaper notification. This requirement has been modified and moved to paragraph (b)(2)(v).

(b)(2)(ii)(B): Maintains the requirement for CWSs to contact customers who are most at risk by delivering materials to the following organizations within their service area: 1) public schools or school boards; 2) Women, Infants, and Children (WIC) and Head Start programs; 3) public and private hospitals and medical clinics; 4) pediatricians; 5) family planning clinics; and 6) local welfare agencies. The Revisions also require CWSs to provide an informational notice that encourages these organizations to distribute these materials to all their potentially affected customers or CWS's users and to also send the public education materials and information notice to private schools or their school boards.

(b)(2)(ii)(C): Adds a requirement for CWSs to make a "good faith effort" to locate and to deliver materials to licensed childcare centers; public and private preschools; and obstetricians-gynecologists; and midwives within their service area. The CWS must also provide an informational notice that encourages distribution to all the organization's potentially affected customers or CWS's users. A "good faith effort" may include requesting a contact list of these organizations from the local public health agencies. However, in this instance the CWS must also deliver materials to any of these organizations that are outside its service area.

(b)(2)(iii): Requires CWSs to provide mandatory language on or in its water bill that notifies consumers that high lead levels were found at some homes and how to obtain more information. This information must be provided at least quarterly for as long as the system continues to exceed the lead action level. The water system must contact the State to modify the message or delivery mechanism (e.g., request that this information be mailed separately).

(b)(2)(iv): Adds a new requirement for CWSs that serve a population of more than 100,000 people to post public education materials on their publicly-accessible Web site.

(b)(2)(v): Requires CWSs to submit a press release to newspaper, television, and radio stations. Previously CWSs had to provide public service announcements (PSAs) to radio and television stations in addition to press releases.

(b)(2)(vi): Adds a requirement for CWSs to implement at least three activities from any of the following nine categories: 1) PSAs, 2) paid advertisements; 3) public area informational displays; 4) e-mails to customers; 5) public meetings; 6) household deliveries; 7) targeted individual customer contact; 8) direct material distribution to all multi-family homes and institutions; and 9) other methods approved by the State. The educational content and selection of these activities must be determined in consultation with the State.

(b)(2)(vii): For the purposes of delivering public education materials, defines the end of the monitoring period for CWSs that exceeded the lead action level during reduced lead and copper tap monitoring to be September 30 of the calendar year in which the sampling occurred, or, if the State has established an alternate monitoring period, the last day of that period.


(b)(3): Requires CWSs to repeat the requirements in paragraphs (b)(3)(i) through (iv) for as long as the system continues to exceed the lead action level.

(b)(3)(i): Requires CWSs to repeat the tasks in paragraphs (b)(2)(i), (ii) and (vi) every 12 months.

(b)(3)(ii): Requires CWSs to repeat the tasks in paragraph (b)(2)(iii) with each billing cycle.

(b)(3)(iii): Requires CWSs that serve a population of more than 100,000 to post and retain material on a publicly-accessible Web site as required in paragraph (b)(2)(iv).

(b)(3)(iv): Requires CWSs to repeat the task in paragraph (b)(2)(v) twice every 12 months on a schedule agreed upon with the State.

 Paragraph (b)(3)(iv) also provides an allowance for States to extend the activities in paragraph (b)(2) beyond the 60-day requirement if the system has initiated these activities and the extension is approved in writing by the State in advance of the 60-day deadline.

(b)(4): Clarifies when public education materials must be delivered for NTNCWSs that exceed the lead action level and are not already repeating public education tasks. Specifically, NTNCWSs must deliver public education materials within 60 days *after the end of the monitoring period in which the exceedance occurred*.

(b)(4)(i): Moves the requirements for NTNCWSs to post informational posters on lead in drinking water from §141.85(c)(4)(i).

(b)(4)(ii): Moves the requirements for NTNCWSs to distribute informational pamphlets or brochures on lead in drinking water to each person they serve and/or to use email if allowed by the State §141.85(c)(4)(ii).

(b)(4)(iii): For the purposes of public education delivery, defines the end of the monitoring period for NTNCWSs on reduced lead and copper tap monitoring as September 30 of the calendar year in which the sampling occurs, or, if the State has established an alternate monitoring period, the last day of that period.

(b)(5): Requires NTNCWSs to repeat the task in paragraph (b)(4) at least once during each calendar year in which they exceed the lead action level.

- ✱ Paragraph (b)(5) also provides an allowance for States to extend the activities in paragraph (b)(4) beyond the 60-day requirement if the system has initiated these activities and the extension is approved in writing by the State in advance of the 60-day deadline.

(b)(6): Moves the specifications for when a PWS can discontinue or recommence the delivery of public education materials from §141.85(c)(5).

- ✱ **(b)(7):** Allows a CWS to apply to the State (unless the State has waived this requirement) to exclude the text in paragraph (a)(2) and use the delivery requirements specified for a NTNCWS if its population is unable to make improvements to plumbing or install point-of-use devices; and it does not separately charge for water consumption. Note: A similar provision was allowed under the LCRM.

- ✱ **(b)(8):** Allows a CWS that serves 3,300 or fewer people to limit its public education program to the requirements in paragraphs (b)(8)(i) through (iii).

- ✱ **(b)(8)(i):** These CWSs must implement at least one activity from the list of nine categories in paragraph (b)(2)(vi) (versus the requirement of three for larger CWSs).

- ✱ **(b)(8)(ii):** These CWSs may limit the distribution of public education materials required under paragraph (b)(2)(ii) to facilities and organizations served by the system that are most likely to be visited regularly by pregnant women and children.

- ✱ **(b)(8)(iii):** Allows States to waive the requirement in paragraph (b)(2)(v) for these CWSs to provide press releases if they distribute notices to every household they serve.

(c): Moves the “Supplemental monitoring and notification of results” provision from §141.85(d).

(d): Contains the introductory text to the lead consumer notice requirements.

(d)(1): Adds a new requirement for all PWSs (regardless of whether they exceed the lead action level) to provide individual lead tap results to people who receive water from sites that were sampled (i.e., lead consumer notice).

(d)(2): Requires the lead consumer notice to be delivered no later than 30 days after the water system learns of the tap monitoring results.

(d)(3): Specifies that the lead consumer notice must include: the lead tap water monitoring results; an explanation of the health effects of lead; steps consumers can take to reduce exposure to lead in drinking water; water utility contact information; the MCLG and the action level for lead; and the definitions for these two terms from the Consumer Confidence Report (CCR) Rule.

(d)(4): Requires the lead consumer notice to be delivered by mail or by another State-approved method (e.g., posting by NTNCWSs) to people served by the test tap, including consumers who do not receive water bills.

Section 141.86 Monitoring Requirements for Lead and Copper in Tap Water

(c): Clarifies monitoring requirements for PWSs with fewer than five drinking water taps that can be used for human consumption. These systems must collect at least one sample from each tap and collect additional samples from those taps on different days during the monitoring period.

☒ Alternatively, §141.86(c) allows the State to provide written approval for these systems to collect fewer than five samples if all taps that can be used for human consumption are sampled.

☒ **(d)(4)(i):** Adds language allowing systems that collect fewer than five samples (*as allowed under §141.86(c)*) and meet the lead and copper action level for two consecutive six-month monitoring periods to monitor annually. *[Note: If the State adopts this provision, it should also adopt the corresponding changes to §141.86(c).]*

Paragraph (d)(4)(i) also specifies that reduced monitoring will begin during the calendar year immediately following the second consecutive six-month monitoring period in which the system is at or below both action levels. *[Note: This provision in §141.86(d)(4)(i) must be adopted.]*

(d)(4)(ii): No longer allows systems that are required to collect water quality parameters (WQPs) to qualify for reduced annual lead and copper tap monitoring based on meeting their State-approved WQP ranges and values (i.e., optimal WQPs or OWQPs). Instead, systems must meet both the *lead action level* and their OWQPs during two, consecutive six-month monitoring periods. Also specifies that reduced monitoring will begin during the calendar year immediately following the end of the second consecutive six-month monitoring period, in which the system qualifies for reduced monitoring.

F.Y.I. PWSs that exceed the copper action level, but do not exceed the lead action level and are in compliance with their OWQPs can qualify for or remain on reduced lead and copper tap monitoring.

(d)(4)(iii): Specifies that systems that are required to collect WQPs must meet both the *lead action level* and their OWQP ranges and values during three consecutive years of monitoring to qualify for reduced lead and copper triennial monitoring. Also clarifies that systems must collect their triennial samples no later than every third calendar year. *[Note: Although the Revisions do not include specific language requiring systems that monitor triennially to collect at least one sample per tap that can be used for human consumption, it was EPA's intent that they do so.]*

(d)(4)(iv)(A): Clarifies when monitoring must begin for a system that is on a State-specified alternate reduced monitoring period for lead and copper (i.e., system collects samples in four-month period other than June - September). The monitoring must begin during the State-specified period:

in the calendar year immediately following the end of the second consecutive six-month monitoring period for systems initiating annual monitoring; and during the three-year period following the end of the third consecutive calendar year of annual monitoring for systems initiating triennial monitoring.

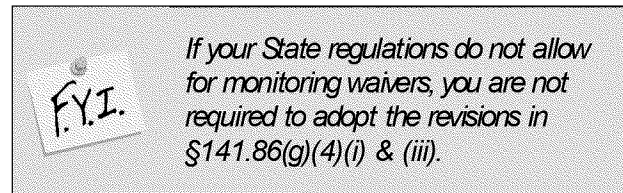
(d)(4)(vi)(B): Requires system on reduced monitoring to return to standard monitoring if it fails to meet the lead action level during any four-month monitoring period or OWQP requirements for more than nine days in any six-month period. Also specifies that standard tap water sampling must begin no later than the six-month period beginning January 1 of the calendar year following the lead action level exceedance or WQP excursion.

(d)(4)(vi)(B)(1): Specifies the time period for a water system that qualifies to resume annual monitoring. The sampling must begin during the calendar year immediately following the end of the second consecutive six-month monitoring period.

(d)(4)(vii): Requires water systems on reduced lead and copper tap monitoring to notify the State in writing of any upcoming long-term change in treatment or addition of a new source. The State must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. Previously, the requirements did not limit this notification to those treatment changes that had long-term impacts on water quality and did not require notification before treatment changes.

(g)(4)(i): Specifies that systems on full lead and copper tap monitoring waivers are to collect samples no later than every ninth calendar year.

[Note: This clarification was not added to §141.86(d)(4)(ii), which allows systems on partial waivers to conduct reduced lead and copper tap monitoring every nine years for the waived contaminant. However, it was EPA's intent these samples be collected by the ninth calendar year.]



(g)(4)(iii): Requires water systems on a full or partial tap monitoring waiver to notify the State in writing of any upcoming long-term change in treatment or addition of a new source. Also requires the State to review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system.

Section 141.87 Monitoring Requirements for Water Quality Parameters

(d): Clarifies when the first six-month WQP monitoring period begins after the State specifies OWQPs. For large systems, the first six-month period begins on either January 1 or July 1, whichever comes first, after the State specifies the optimal values. For small and medium-size systems, that were on reduced lead and copper tap monitoring, the start of the first-six month WQP monitoring period is the same as the beginning of the lead and copper tap monitoring period (e.g. for system monitoring during June - September, 2009, the start of the six-month monitoring period is June 1, 2009).

(e)(2)(i): Specifies that annual reduced WQP monitoring for qualifying systems begins during the calendar year immediately following the end of the monitoring period in which the third consecutive

year of six-month monitoring occurred (e.g., PWSs qualifies for annual monitoring during six-month period of January 1 - June 30, 2009, annual monitoring starts January 1, 2010). Also specifies that triennial reduced WQP monitoring must begin no later than three calendar years after the end of the monitoring period in which the system qualifies for triennial monitoring. (e.g., PWSs qualifies for triennial monitoring in 2009, triennial monitoring must be conducted no later than 2012).

(e)(2)(ii): Specifies that triennial WQP tap monitoring must be conducted at least every three calendar years.

Section 141.88 Monitoring Requirements for Lead and Copper in Source Water

(b): Specifies that initial source water monitoring must be conducted no later than six months after *the end of the monitoring period during which* the lead or copper action level was exceeded. If the exceedance occurred during reduced monitoring, defines the end of the monitoring period to be September 30 of the calendar year in which the sampling occurs, or if the State has established an alternate monitoring period, the last day of that period.

(d)(i): Specifies that triennial source water samples must be collected every third calendar year.

(d)(ii): Specifies that the first annual source water monitoring period must begin during the year in which the State specifies maximum permissible source water levels or determine that no source water treatment is needed.

(e)(1): Specifies that systems using only ground water that qualify for nine-year source water monitoring must collect these samples no later than every ninth calendar year.

(e)(2): Specifies that systems using surface water (or a combination of surface water and ground water) that qualify for nine-year source water monitoring must collect these samples no later than every ninth calendar year.

Section 141.89 Analytical Methods

(a)(iii): Provides the correct citation of §141.88(a)(1)(iv) for source water composite samples

(a)(iv): Provides the correct citation of §141.89(a)(1) for analytical specifications that must be met by laboratories.

Section 141.90 Reporting Requirements

(a): Retains the requirement for systems to report tap water monitoring for lead and copper and WQP information within the first 10 days following the end of each applicable monitoring period. Clarifies the meaning of the “end of the monitoring period” for those periods with a duration of less than six months (e.g., reduced lead and copper tap monitoring period is four months). In these instances, the end of the monitoring period is the last date samples can be collected during that period.

(a)(2): Updates the public education citations in this paragraph to be §141.85(b)(7).

(a)(3): Specifies the timeframe for systems that are monitoring less frequently than semi-annually to submit written documentation that describes the addition of a new source or long-term change in water treatment. This documentation must be at a time specified by the State, or if no specific time is designated, then as early as possible prior to the addition of a new source or any long-term change in water. Previously, systems had to notify the State within 60 days after the addition of a new source or change in water treatment.

Requires States to review and approve the addition of a new source or long-term change in treatment before it is implemented by the water system. Previously, States had the discretion to require prior approval. Also includes examples of long-term treatment changes.

(e)(1): Specifies that within 12 months after *the end of a monitoring period in which* a system exceeds the lead action level, it must submit written documentation to the State of the material evaluation that identifies the initial number of lead service lines in the distribution system. Also clarifies that the initial number of lead service lines equals those lines in the distribution system when the system was triggered into lead service line replacement (i.e., the monitoring period in which the PWS exceeded the lead action level after installing corrosion control treatment and/or source water treatment, whichever is later).

(e)(2): Specifies that the system must submit documentation that it has met its replacement requirements no later than 12 months after *the end of a monitoring period in which* it exceeds the lead action level and every 12 months thereafter.

(f)(1)&(i): Updates the citations in these paragraphs to correspond to the newly renumbered public education delivery requirements in paragraph (b)(2).

(f)(3): Adds a new requirement for systems to mail a sample copy of the consumer notification of tap results and a certification that they met the distribution requirements to the State. This reporting requirement is due no later than three months following the end of the monitoring period.

Section 141.91 Recordkeeping Requirements

The Short-Term Revisions do not modify the provisions in this section.

Section 141.154 Required Additional Health Information

(d)(1): Adds language that amends the lead information to be reported in the CCR.

(d)(2): Adds language to allow a PWS to write its own educational statement in consultation with the State.

Section 142.14 Records Kept by States

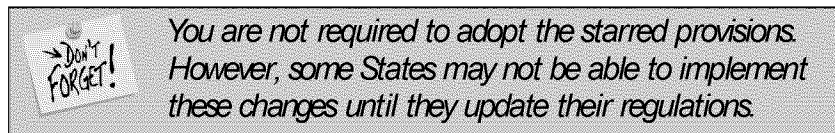
(d)(8)(xi): Updates the public education citations in this paragraph to correspond to the newly renumbered delivery requirements in §§141.85(b)(7)(i) and (ii).

Section 142.15 Reports by States

The Short-Term Revisions do not modify the provision in this section. However, EPA has added a new violation code to facilitate tracking of water system compliance with the new lead consumer notification requirements in §§141.80(g), 141.85(d), and 141.90(f)(3). Refer to Section IV of this manual for more detail regarding this reporting requirement.

Section 142.16 Special Primacy Requirements

The Short-Term Revisions do not modify the provisions in this section.



SECTION V. PRIMACY REVISION APPLICATIONS

A. State Primacy Program Revision

40 CFR Part 142 sets out requirements for States to obtain or retain primary enforcement responsibility (primacy) for the Public Water System Supervision (PWSS) Program as authorized by SDWA Section 1413. The 1996 SDWA Amendments update the process for States to obtain or retain primacy. On April 28, 1998, EPA promulgated the Primacy Rule to reflect these statutory changes (63 FR 23361).

Pursuant to 40 CFR 142.12, Revision of State Programs, complete and final requests for approval of program revisions to adopt new or revised EPA regulations must be submitted to the EPA Administrator no later than 2 years after promulgation of the new or revised federal regulations (see Exhibit V-1). Until those applications are approved, EPA regions have responsibility for directly implementing the LCR Short-Term Revisions. The State and EPA can agree to implement the Rule together during this period. However, if a State is eligible for interim primacy, it will have full implementation and enforcement authority. States that have primacy for all existing NPDWRs are considered to have interim primacy for any new or revised regulation. Interim primacy for the Short-Term Revisions would begin on the date the final and complete primacy revision application is submitted or the effective date of the new State regulation (whichever is later), and ends when EPA makes a final determination.

A State may be granted an extension of time, up to 2 years, to submit its application package. During any extension period, an agreement outlining the State's and EPA's responsibilities is required.

The provisions of the Short-Term Revisions fall into two general categories:

1. Provisions that States must adopt to retain primacy; and
2. Provisions that are not more stringent, but allow flexibility and improvements in implementation. States are not required to adopt these changes to maintain primacy. Some States may not be able to implement these changes until they update their own regulations.

Provisions That Must Be Adopted — These provisions became effective on December 10, 2007 and States must incorporate them into their drinking water regulations. Because the effective date for these provisions is well in advance of the deadline for State adoption of these revised requirements, EPA will take steps to enter into implementation agreements with States to ensure that the new requirements are implemented.


Provisions Designed to Improve Implementation — These provisions are effective on December 10, 2007 at the federal level. These provisions were identified in Section IV and are also marked with the symbol  in the Primacy Revision Crosswalk (see Appendix A). State regulations with more stringent requirements remain in effect in most States until the States adopt their own regulations in response to the Short-Term Revisions. EPA anticipates that States will work with their water systems to ensure that the water systems understand which requirements will be enforced in their State.

Exhibit V-1. State Rule Implementation and Revision Timetable for the Lead and Copper Rule Short-Term Revisions	
EPA/State Action	Time Frame
Rule published by EPA	October 10, 2007
Effective Date ¹	December 10, 2007
State and region establish a process and agree upon a schedule for application review and approval (optional)	December 10, 2007
Compliance Date ²	April 7, 2008
State, at its option, submits <i>draft</i> program revision package including: Preliminary Approval Request Draft State Regulations and/or Statutes Regulation Crosswalk	April 10, 2008 (recommended)
EPA regional office (and Headquarters, if necessary) review draft	Completed within 90 days of State submittal of Draft (recommended)
State submits final program revision package including: Adopted State Regulations Regulation Crosswalk §142.10 Primacy Update Checklist	October 10, 2009 ³
States with approved extensions submit complete and final program revision package	October 10, 2011 ⁴
EPA final review and determination: Regional review (program and Office of Regional Counsel (ORC)) Headquarters concurrence and waivers (OGWDW) Public Notice Opportunity for hearing EPA's Determination	Completed within 90 days of State submittal of Final package (45 days region) (45 days headquarters) ⁵
¹ The effective date is when the Short-Term Revisions becomes law and supersede the previous version of the LCR. ² The compliance dates is when the Primacy Agency will begin implementing (and systems must begin complying with) the requirements of the Short-Term Revisions. The earliest compliance date is April 7, 2008 and will apply to those systems where EPA is the Primacy Agency or in States that adopt the Rule by reference. ³ EPA suggests submitting an application by July 10, 2009, to ensure timely approval. EPA regulations allow States until October 10, 2009, for this submittal. ⁴ EPA suggests submitting an application by July 10, 2011 for States with approved extensions to ensure timely approval. ⁵ At least one State application per region.	

A.1 The Revision Process

EPA recommends a two-step process for approval of State program revisions. The steps consist of submission of a draft request (optional) and submission of a complete and final request for program approval. Exhibit V-2 diagrams these processes and their timing.

Draft Request — The State may submit a draft request for EPA review and tentative determination. The request should contain drafts of all required primacy application materials (with the exception of a draft Attorney General’s Statement). A draft request should be submitted as soon as practicable; EPA recommends submitting it within 6 months of rule promulgation. EPA will make a tentative determination as to whether the State program meets the applicable requirements. EPA intends to make a tentative determination within 90 days of submission.

Complete and Final Request — This submission must be in accordance with §142.12(c)(1)(i). EPA has waived the requirement for the Attorney General’s Statement of Enforceability. The State should also include its response to any comments or program deficiencies identified in the tentative determination (if applicable). Submission of only a final request may make it more difficult for States to address any necessary changes within the allowable time for State rule adoption.

EPA recommends that States submit their complete and final revision package within 21 months of (by July 10, 2009) of rule promulgation. This will ensure that States will have interim primacy as soon as possible and will prevent backlogs of revision applications to adopt future federal requirements.

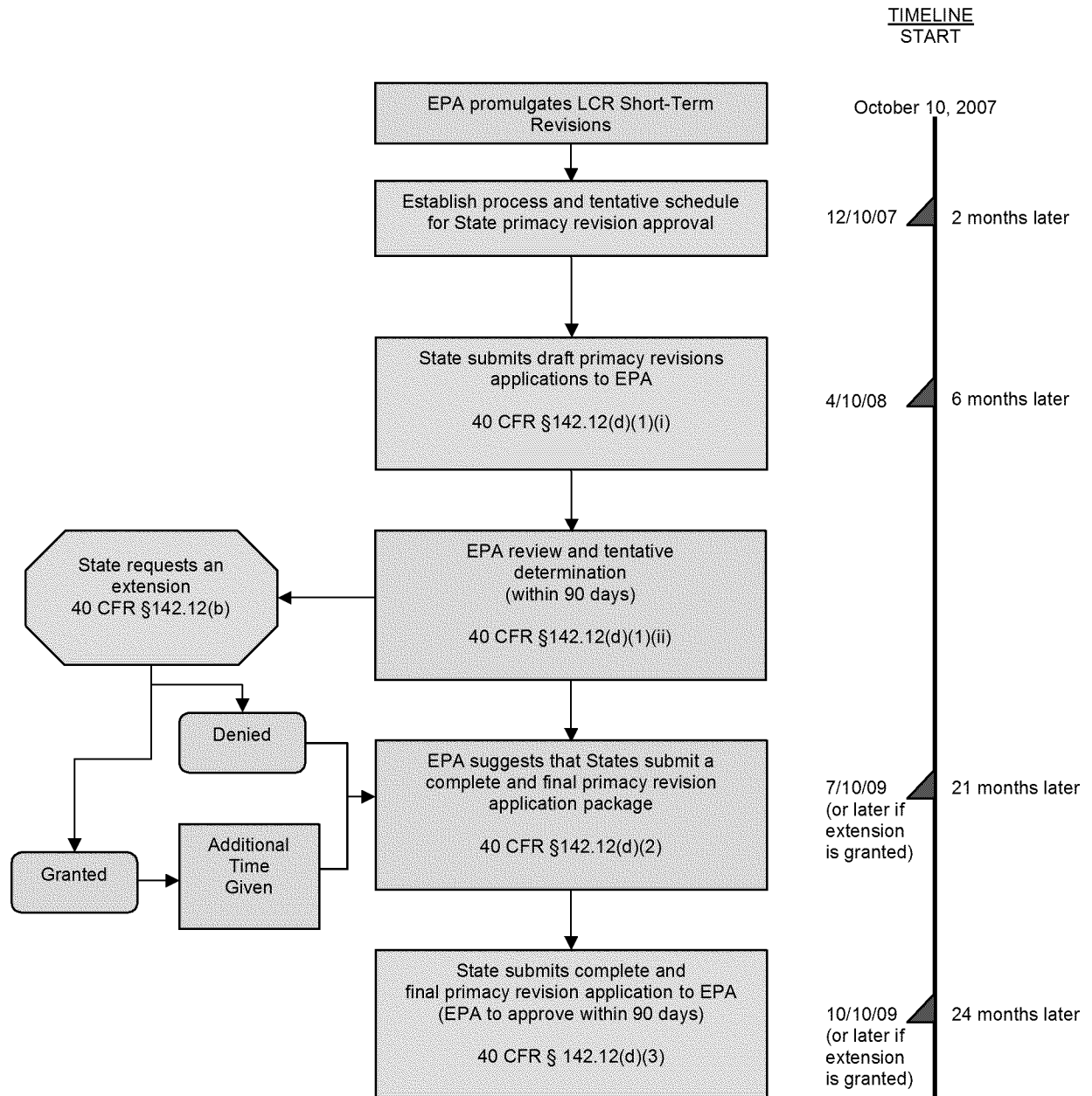
The State and EPA region should agree to a plan and timetable for submitting the State primacy revision application as soon as possible after rule promulgation—ideally within 2 months after promulgation.

A.2 The Final Review Process

Once a State application is complete and final, EPA has a regulatory (and statutory) deadline of 90 days to review and approve or disapprove the revised program. OGWDW will conduct a detailed concurrent review of the first State package from each region. The regional office should submit its comments with the State’s package within 45 days for review by Headquarters. OGWDW waives concurrence on all other State programs in that region, although EPA HQ retains the option to review additional State programs, as appropriate. The Office of General Counsel (OGC) has delegated its review and approval to the Office of Regional Counsel (ORC).

To meet the 90-day deadline for packages undergoing Headquarters review, the review period is equally split by giving both the EPA regions and Headquarters 45 days to conduct their respective reviews. For the first package in each region, EPA regional offices should forward copies of the primacy revision applications and their evaluations to the Drinking Water Protection Division Director in OGWDW no later than 45 days after State submittal. The Drinking Water Protection Division Director will take the lead on the Headquarters review process.

Exhibit V-2. Recommended Review Process for State Request for Approval of Program Revisions



B. State Primacy Program Revision Extensions

B.1 The Extension Process

Under §142.12(b), States may request that the 2-year deadline for submitting the complete and final packages for EPA approval of program revisions be extended for up to 2 additional years in certain circumstances. The extension request must be submitted to EPA within 2 years of the date that EPA published the regulation. The Regional Administrator has been delegated authority to approve extension applications. Concurrence by Headquarters on extensions is not required.

Therefore, the State must either adopt regulations pertaining to the Short-Term Revisions and submit a complete and final primacy revision application or request an extension of up to 2 years by October 10, 2009.

B.2 Extension Request Criteria

For an extension to be granted under §142.12(b), the State must demonstrate that it is requesting the extension because it cannot meet the original deadline for reasons beyond its control and despite a good faith effort to do so. A critical part of the extension application is the State's proposed schedule for submission of its complete and final request for approval of a revised primacy program. The application must also demonstrate at least one of the following:

- (i) The State currently lacks the legislative or regulatory authority to enforce the new or revised requirements;
- (ii) The State currently lacks adequate program capability to implement the new or revised requirements; or,
- (iii) The State is requesting the extension to group two or more program revisions in a single legislative or regulatory action.

In addition, the State must be implementing the EPA requirements to be adopted in its program revision within the scope of its current authority and capabilities.

B.3 Conditions of the Extension

Until the State Primacy Revision Application has been submitted, the State and EPA regional office will share responsibility for implementing the primary program elements as indicated in the extension agreement. The State and the EPA regional office should discuss these elements and address terms of responsibility in the agreement.

These conditions will be determined during the extension approval process and are decided on a case-by-case basis. The conditions must be included in an extension agreement between the State and the EPA regional office.

Conditions of an extension agreement may include:

- Informing PWSs of the new EPA (and upcoming State) requirements and the fact that the region will be overseeing implementation of the requirements until it approves the State program revisions or until the State submits a complete and final revision package if the State qualifies for interim primacy.
- Collecting, storing, and managing laboratory results, public notices, and other compliance and operation data required by the EPA regulations.
- Assisting the region in the development of the technical aspects of enforcement actions and conducting informal follow-up on violations (telephone calls, letters, etc.).
- Providing technical assistance to PWSs.
- For States whose request for an extension is based on a lack of program capability adequate to implement the new requirements, taking steps agreed to by the region and the State to remedy the deficiency during the extension period.
- Providing the region with all the information required under §142.15 for State reporting.

Exhibit V-3 provides a checklist the EPA region can use to review State extensions or to create an extension agreement. The bolded blue text in brackets should be replaced with State-specific information.

Until States have primacy, EPA is the primacy enforcement authority. However, historically States have played a role in implementation for various reasons - most importantly, since States have the local knowledge and expertise and have established relationships with their systems.

The State and EPA should be viewed as partners in this effort, working toward two very specific public health-related goals. The first goal is to achieve a high level of compliance with the regulation. The second goal is to facilitate efficient co-regulation during the transition period before the State has primacy, including interim primacy, for the Rule. In order to accomplish these goals, education, training, and technical assistance will need to be provided to water suppliers on their responsibilities under the LCR Short-Term Revisions.

Exhibit V-3. Example Extension Request Checklist

[Date]

[Regional Administrator]
 Regional Administrator
 U.S. EPA Region [Region]
 [Street Address]
 [City, State, Zip]

RE: Request/Approval for an Extension Agreement

Dear [Regional Administrator]:

The State of [State] is requesting an extension to the date that the final primacy revisions are due to EPA for the Lead and Copper Rule (LCR) Short-Term Revisions until [insert date – no later than October 10, 2011], as allowed by 40 CFR 142.12 and would appreciate your approval. Staff of the [State Department/Agency] have conferred with your staff and have agreed to the requirements listed below for this extension. This extension is being requested because the State of [State]:

- ☐ Is planning to group two or more program revisions into a single legislative or regulatory action.
- ☐ Currently lacks the legislative or regulatory authority to enforce the new or revised requirements.
- ☐ Currently lacks adequate program capability to implement the new or revised requirements.

[State Department/Agency] will be working with EPA to implement the Short-Term Revisions within the scope of its current authority and capability, as outlined in the six areas identified in §142.12(b)(3)(i-vi):

i) Informing PWSs of the new EPA (and upcoming State) requirements and the fact that EPA will be overseeing implementation of the requirements until EPA approves the State revision.

State	EPA	
_____	_____	Provide copies of regulation and guidance to other State agencies, public water systems (PWSs), technical assistance providers, associations, or other interested parties.
_____	_____	Educate and coordinate with State staff, PWSs, the public, and other water associations about the requirements of this regulation.
_____	_____	Notify affected systems of their requirements under the Short-Term Revisions.
_____	_____	Other:

ii) Collecting, storing and managing laboratory results, public notices, and other compliance and operation data required by the EPA regulations.

State	EPA	
_____	_____	Devise a tracking system for PWS reporting pursuant to the Short-Term Revisions.
_____	_____	Keep PWSs informed of SDWIS reporting requirements during development and implementation.
_____	_____	Report Short-Term Revisions violation and enforcement information to SDWIS as required.
_____	_____	Other:

iii) Assisting EPA in the development of the technical aspects of the enforcement actions and conducting informal follow-up and violations (telephones calls, letters, etc.).

State	EPA	
_____	_____	Issue notices of violation (NOVs) for treatment technique, MCL, and monitoring/reporting violations of the Short-Term Revisions.
_____	_____	Provide immediate technical assistance to PWSs with treatment technique, MCL, and/or monitoring/reporting violations to try to bring them into compliance.
_____	_____	Refer all violations to EPA for enforcement if they have not been resolved within 60 days of the incident that triggered the violation. Provide information as requested to conduct and complete any enforcement action referred to EPA.
_____	_____	Other:

iv) Providing technical assistance to PWSs.

State	EPA	
_____	_____	Conduct training within the State for PWSs on Short-Term Revisions requirements.
_____	_____	Provide technical assistance through written and/or verbal correspondence with PWSs.
_____	_____	Provide on-site technical assistance to PWSs as requested and needed to ensure compliance with this regulation.
_____	_____	Coordinate with other technical assistance providers and organizations to provide accurate information and aid in a timely manner.
_____	_____	Other:

v) Providing EPA with all information prescribed by the State Reporting Requirements in §142.15.

State	EPA	
_____	_____	Report any violations incurred by PWSs for this regulation each quarter.
_____	_____	Report any enforcement actions taken against PWSs for this regulation each quarter.
_____	_____	Report any variances or exemptions granted for PWSs for this regulation each quarter.
_____	_____	Other:

vi) For States whose request for an extension is based on a current lack of program capability to implement the new or revised requirements, taking the following steps to remedy the capability deficiency.

State	EPA	
_____	_____	Acquire additional resources to implement these regulations (list of specific steps being taken attached as [List A]).
_____	_____	Provide quarterly updates describing the status of acquiring additional resources.
_____	_____	Other:

I affirm that the [State Department/Agency] will implement provisions of the Short-Term Revisions as outlined above.

_____	_____
[Agency Director or Secretary]	Date

[Name of State Agency]

I have consulted with my staff and approve your extension for the aforementioned regulation. I affirm that EPA Region [Region] will implement provisions of the Short-Term Revisions as outlined above.

_____	_____
Regional Administrator	Date
EPA Region [Region]	

This Extension Agreement will take effect upon the date of the last signature.

B.4 State Primacy Package

The Primacy Revision Application package should consist of the following sections:

- State Primacy Revision Checklist
- Text of the State's Regulation
- Primacy Revision Crosswalk

The Short-Term Revisions did not modify the State recordkeeping, reporting, or special primacy requirements in §§141.14, 142.15, or 141.16 respectively. Therefore, the primacy revision application package does not need to include a State Reporting and Recordkeeping Checklist or Special Primacy Requirements. In addition, EPA has waived the requirement for the Attorney General's Statement of Enforceability.

B.4.1 The State Primacy Revision Checklist

This section is a checklist of general primacy requirements, as shown in Exhibit V-4. In completing this checklist, the State must identify the program elements that it has revised in response to new federal requirements. **If an element has been revised, the State should indicate a "Yes" answer in the "Revision to State Program" column and should submit appropriate documentation.** For elements that did not require revision, the State need only list the citation and date of adoption in the "Revision to State Program" column. During the application review process, EPA will insert findings and comments in the final column.

The 1996 SDWA Amendments include new provisions for PWS definition and administrative penalty authority. States must adopt provisions at least as stringent as these new provisions, now codified at §§142.2 and 142.10. Failure to revise these elements can affect primacy for the LCR Short-Term Revisions.

States may bundle the primacy revision packages for multiple rules. If States choose to bundle requirements, the Attorney General's Statement, if required, should reference all of the rules included.

B.4.2 Text of the State's Regulation

Each primacy application package should include the text of the State regulation.


B.4.3 Primacy Revision Crosswalk

The Primacy Revision Crosswalk, in Appendix A, or a comparable document must be completed by States in order to identify State statutory or regulatory provisions that correspond to each federal requirement. If the State's provisions differ from federal requirements, the State should explain how its requirements are no less stringent.

Exhibit V-4. State Primacy Revision Checklist			
Required Program Elements		Revision to State Program	EPA Findings/Comments
§141.2	Definitions		
§142.10(b)(6)(iii)	Right of entry		
§142.10(b)(6)(iv)	Authority to require records		
§142.10(b)(6)(v)	Authority to require public notification		
§142.10(b)(6)(vi)	Authority to assess civil and criminal penalties		
§142.10(b)(6)(vii)	Authority to require CCRs		
§142.10(c)	Maintenance of records		
§142.10(d)	Variance/exemption conditions (if applicable) ¹		
§142.10(e)	Emergency plans		
§142.10(f)	Administrative Penalty Authority ²		

¹Regulations published in the August 14, 1998 *Federal Register*.

²Requirement from the 1996 Amendments. Regulations published in the April 28, 1998 *Federal Register*.

 *The Short-Term Revisions did not modify the State recordkeeping or reporting requirements in §§141.14, 142.15, or 141.16 respectively. However, States must continue to comply with existing requirements that pertain to the LCR.*

To: Kempic, Jeffrey[Kempic.Jeffrey@epa.gov]
From: Darman, Leslie
Sent: Wed 9/30/2015 5:28:43 PM
Subject: FW: Follow-up from today's call -- Draft letters and next steps
DRAFT Letter to R5 States Regarding LCR OCCT Requirements v9-30-15.docx
DRAFT Letter to MDEQ Re Flint and LCR Implementation v9-30-15.doc

.....
>>>>

Here are the draft memos.

Leslie Darman

Office of General Counsel

Water Law Office

202-564-5452

From: Shoven, Heather
Sent: Wednesday, September 30, 2015 1:13 PM
To: Moriarty, Edward
Cc: Deltoral, Miguel; Glowacki, Joanna; King, Carol; Darman, Leslie; Poy, Thomas; Crooks, Jennifer; Damato, Nicholas; Bair, Rita; Porter, Andrea; Lopez-Carbo, Maria
Subject: Follow-up from today's call -- Draft letters and next steps

DRAFT: EPA INTERNAL DELIBERATIVE

Hi Ed,

Based on our discussion this morning (thanks to all for meeting), Region 5 would greatly appreciate OGWDW drafting, and OGC reviewing, a memo from Ron or Maria to Tom that covers the following rule requirements/intent:

Attorney Client / Ex. 5

Attorney Client / Ex. 5

These are the key points covered in Miguel's **memo (Miguel – please forward the latest version to the group)** and we are happy to further discuss whether you think these are appropriate. We think covering all of these points will help states with handling large systems that change treatment or sources after having OCCT. We know that many systems will be moving to the new pipeline in Michigan and we want to make sure that OCCT is maintained throughout the source switch and that systems required to monitor for QWQPs continue to do so.

We would like to transmit this OGWDW memo to each Region 5 state individually using the attached cover letter (see "DRAFT Letter to R5 States Regarding LCR OCCT Requirements v9-30-15").

We would then like to follow-up with MDEQ and send a second letter that focuses on Flint and what we believe to be missteps in LCR implementation (see "DRAFT Letter to MDEQ Re Flint and LCR Implementation v9-30-15"). Specifically, the failure to maintain corrosion control treatment when they switched to the new source. We are using this letter to identify the violation and to urge MDEQ to take immediate action to ensure the public is fully aware of the violation and that they work to have alternative water provided to the public.

We appreciate your time. Please let me know if you'd like me to set up a meeting when Maria is back in the office tomorrow.

Best wishes,

Heather

Heather A. Shoven | Enforcement Team Leader | U.S. Environmental Protection Agency, Region 5

Ground Water and Drinking Water Branch | 77 W. Jackson Blvd (WG-15J) | Chicago, IL 60604 | 312-886-0153

To: Wehling, Carrie[Wehling.Carrie@epa.gov]
From: Darman, Leslie
Sent: Wed 9/30/2015 5:38:52 PM
Subject: FW: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

FYI

Leslie Darman

Office of General Counsel

Water Law Office

202-564-5452

From: Shoven, Heather
Sent: Wednesday, September 30, 2015 8:31 AM
To: Damato, Nicholas; Bair, Rita; Poy, Thomas; Porter, Andrea; Crooks, Jennifer; King, Carol; Darman, Leslie; Glowacki, Joanna
Cc: Deltoral, Miguel
Subject: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

From: Marc Edwards [<mailto:edwardsm@vt.edu>]
Sent: Tuesday, September 29, 2015 10:34 PM
To: Schock, Michael; Lytle, Darren; Burneson, Eric; demarco.carol@epa.gov; Murphy, Thomas; Shoven, Heather; Deltoral, Miguel
Subject: WHAT ARE YOU GUYS DOING DOWN THERE?

Wurfel says to NPR you have to poison kids for a year before implementing corrosion control, and to determine the right orthophosphate dose?

Eric, is this going to be part of the new improved LCR? And is EPA going to hand Miguel's draft memo to Wurfel, to finalize and/or approve? Wurfel PROMISES THAT the final memo is going to tell a different story. And Miguel is now a ROGUE EPA employee?

EPA Office of Water and EPA Region 5 are a national embarrassment. You have a city in crisis,

kids with elevated blood lead, and NO CORROSION CONTROL PLAN FOR 16 MONTHS, and yet you sit there and do absolutely nothing.

Marc

<http://www.npr.org/2015/09/29/444497051/high-lead-levels-in-michigan-kids-after-city-switches-water-source>

A [draft report from the EPA](#) that was obtained by the ACLU of Michigan also takes the city and state to task.

"Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to control lead and copper levels in the drinking water," the report read, adding that the treatment was discontinued after the switch to Flint River water.

"In accordance with the Lead and Copper Rule (LCR), all large systems ... are required to install and maintain corrosion control treatment for lead and copper. In the absence of any corrosion control treatment, lead levels in drinking water can be expected to increase," the report continued.

A Solution May Be Near

But officials with the Michigan Department of Environmental Quality dispute the findings of the draft report. MDEQ spokesman Brad Wurfel says the report was the work of a "rogue employee," and promised the final report — not yet released — would tell a much different story.

"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, Wurfel says, adding that's the only way to know how much phosphate to add to the water.

To: Grevatt, Peter[Grevatt.Peter@epa.gov]; Clark, Becki[Clark.Becki@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]; Oshida, Phil[Oshida.Phil@epa.gov]; Christ, Lisa[Christ.Lisa@epa.gov]; Huff, Lisa[Huff.Lisa@epa.gov]; Kempic, Jeffrey[Kempic.Jeffrey@epa.gov]; Ellis, Jerry[Ellis.Jerry@epa.gov]; Greene, Ashley[Greene.Ashley@epa.gov]; Galada, Heather[Galada.Heather@epa.gov]
From: Flaharty, Stephanie
Sent: Wed 9/30/2015 6:01:15 PM
Subject: Greenwire: Lead levels spike in Mich. kids after tap source changes

Lead levels spike in Mich. kids after tap source changes

Published: Wednesday, September 30, 2015

Doctors in Flint, Mich., are finding high levels of lead in children in town one year after the municipality changed its water source.

Unable to agree on a short-term supply contract with Detroit in April 2014, Flint began pumping water from the Flint River, which state officials assured the city would be safe.

But lead levels in children under 5 years old nearly doubled since the swap, from 2.1 percent to 4 percent, according to Mona Hanna-Attisha of the Hurley Medical Center, who has studied lead levels in hundreds of Flint children.

"My research shows that lead levels have gone up," she said. "I cannot say it's from the water. But that's, you know, the thing that has changed."

After Hanna-Attisha's report was published, researches from Virginia Polytechnic Institute and State University found that Flint River water is very corrosive and picks up lead that it comes into contact with in service lines and household pipes.

City officials, who have issued a water advisory to residents, say they are putting together an anti-corrosion plan. But Marc Edwards, who led the Virginia Tech team, said such a strategy should have already been in place. "Flint is the only city in America that I'm aware of that does not have a corrosion plan," he said.

Drawing water from the Flint River was only meant as a temporary solution while officials wait for a new system to draw water from Lake Huron to come online next year. Now city officials are thinking about returning to Detroit's water system.

"As a father, I want every family and household in the city of Flint to be safe and secure," Mayor Dayne Walling said (Sarah Hulett, [NPR](#), Sept. 29). -- **AW**

To: Moriarty, Edward[Moriarty.EdwardJ@epa.gov]
From: Deltoral, Miguel
Sent: Wed 9/30/2015 6:19:10 PM
Subject: Re: Follow-up from today's call -- Draft letters and next steps

Will do.

Miguel A. Del Toral
Regulations Manager
U.S. EPA R5 GWDWB
77 West Jackson Blvd, (WG-15J)
Chicago, IL 60604
Phone: (312) 886-5253

From: Moriarty, Edward
Sent: Wednesday, September 30, 2015 01:00 PM
To: Deltoral, Miguel; Shoven, Heather; Viveiros, Edward
Cc: Glowacki, Joanna; King, Carol; Darman, Leslie; Poy, Thomas; Crooks, Jennifer; Damato, Nicholas; Bair, Rita; Porter, Andrea; Lopez-Carbo, Maria
Subject: RE: Follow-up from today's call -- Draft letters and next steps

Thanks and please regarding Flint would you copy Eddy Viveiros and Victoria Banks who will be taking over LCR? We will ease them through the transition.

Ed

Ed Moriarty - Team Lead
OGWDW - Protection Branch
1200 Constitution Ave., NW
Washington, DC 20460
202-564-3864

From: Deltoral, Miguel
Sent: Wednesday, September 30, 2015 1:16 PM
To: Shoven, Heather; Moriarty, Edward

Cc: Glowacki, Joanna; King, Carol; Darman, Leslie; Poy, Thomas; Crooks, Jennifer; Damato, Nicholas; Bair, Rita; Porter, Andrea; Lopez-Carbo, Maria
Subject: Re: Follow-up from today's call -- Draft letters and next steps

Here's the other piece (memo).

Miguel A. Del Toral

Regulations Manager
U.S. EPA R5 GWDWB
77 West Jackson Blvd, (WG-15J)
Chicago, IL 60604
Phone: (312) 886-5253

From: Shoven, Heather
Sent: Wednesday, September 30, 2015 12:12 PM
To: Moriarty, Edward
Cc: Deltoral, Miguel; Glowacki, Joanna; King, Carol; Darman, Leslie; Poy, Thomas; Crooks, Jennifer; Damato, Nicholas; Bair, Rita; Porter, Andrea; Lopez-Carbo, Maria
Subject: Follow-up from today's call -- Draft letters and next steps

DRAFT: EPA INTERNAL DELIBERATIVE

Hi Ed,

Based on our discussion this morning (thanks to all for meeting), Region 5 would greatly appreciate OGWDW drafting, and OGC reviewing, a memo from Ron or Maria to Tom that covers the following rule requirements/intent:

Attorney Client / Ex. 5

Attorney Client / Ex. 5

Attorney Client / Ex. 5

We appreciate your time. Please let me know if you'd like me to set up a meeting when Maria is back in the office tomorrow.

Best wishes,

Heather

Heather A. Shoven | Enforcement Team Leader | U.S. Environmental Protection Agency, Region 5

Ground Water and Drinking Water Branch | 77 W. Jackson Blvd (WG-15J) | Chicago, IL 60604 | 312-886-0153

To: Kelley, Jeff[kelley.jeff@epa.gov]
Cc: Arcaute, Francisco[Arcaute.Francisco@epa.gov]; Rowan, Anne[rowan.anne@epa.gov]; Sarah Hulett[sarahhu@umich.edu]; Cassell, Peter[cassell.peter@epa.gov]
From: Lindsey Smith
Sent: Wed 9/30/2015 6:52:49 PM
Subject: Re: Flint water interim report - media request

Hello again. I left messages with Jeff, Anne and Francisco yesterday but haven't heard back yet. Can someone let me know you've got my follow up question? Is CCT required or no? We're also trying to figure out if there's a comparable city to Flint that started using a "new source." We'd like to see an example of how another city dealt with this issue. That's a secondary request though. I'm really only trying to get clarification on the CCT requirements. Best~

On Tue, Sep 29, 2015 at 10:03 AM, Lindsey Smith <lmsmi@umich.edu> wrote:

Thanks Jeff,

I guess my only follow up is - is it fair to assume corrosion control is, in fact, required of large water systems? I did a lot of reading yesterday and from what I can tell, it is. It would be very helpful if one of you can clarify.

Best~

On Mon, Sep 28, 2015 at 5:11 PM, Kelley, Jeff <kelley.jeff@epa.gov> wrote:

Lindsey,

EPA is working to finalize the field report. In the meantime, EPA and the Michigan Department of Environmental Quality are working closely with the city of Flint to ensure that residents are provided with safe drinking water. In response to EPA and MDEQ recommendations, Flint has decided to implement corrosion control treatment and will receive EPA technical assistance to help with that effort.

EPA advises everyone across the country to flush their pipes before drawing drinking water to reduce exposure to lead. The more time water has been sitting in your home's pipes, the more lead it may contain. Anytime the water in a particular faucet has not been used for six hours or longer, "flush" the cold-water pipes by running the water before drinking and remember to use only cold water for drinking, cooking, and preparing baby formula. Flushing times can vary based on the plumbing configuration in the home and whether the home has a lead service line.

Flint residents that are concerned about lead in their drinking water should contact the water utility and may request sampling. Additional information about lead in drinking

water is available at:

<http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm>.

Jeff Kelley

Director, Office of External Communications

U.S. EPA Region 5

ph: 312-353-1159

From: Lindsey Smith [mailto:lsmsmi@umich.edu]

Sent: Monday, September 28, 2015 2:18 PM

To: Arcaute, Francisco

Cc: Rowan, Anne; Kelley, Jeff; Sarah Hulett

Subject: Re: Flint water interim report - media request

Any luck? I colleague is filing for the national network very shortly and we're trying to understand if corrosion control **is** required, as that memo says it is. Best~

On Mon, Sep 28, 2015 at 10:06 AM, Arcaute, Francisco

<Arcaute.Francisco@epa.gov> wrote:

Chasing down...

Thanks

F

From: Lindsey Smith [mailto:lsmsmi@umich.edu]

Sent: Friday, September 25, 2015 11:57 AM

To: Rowan, Anne

Cc: Arcaute, Francisco

Subject: Flint water interim report - media request

Hi Anne,

Back in July the ACLU leaked an interim EPA report related to higher than allowable lead levels in the city of Flint. I was told then that because the report had not been finalized, the EPA could not comment on it beyond a written statement.

Curious if that report has been finalized? If not, do you have any idea when it might be? Obviously it's sort of a hot topic again and we've gotten a few inquiries. If it is, could I get a copy of it? Or would I need to FOIA?

All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

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To: Poy, Thomas[poy.thomas@epa.gov]; Damato, Nicholas[damato.nicholas@epa.gov]; Bair, Rita[bair.rita@epa.gov]; Deltoral, Miguel[deltoral.miguel@epa.gov]; Porter, Andrea[porters.andrea@epa.gov]; Crooks, Jennifer[crooks.jennifer@epa.gov]; Glowacki, Joanna[glowacki.joanna@epa.gov]; Kempic, Jeffrey[Kempic.Jeffrey@epa.gov]; Darman, Leslie[Darman.Leslie@epa.gov]; King, Carol[King.Carol@epa.gov]; Moriarty, Edward[Moriarty.EdwardJ@epa.gov]; Lopez-Carbo, Maria[Lopez-Carbo.Maria@epa.gov]; Viveiros, Edward[Viveiros.Edward@epa.gov]; Banks, Victoria[Banks.Victoria@epa.gov]
From: Shoven, Heather
Sent: Wed 9/30/2015 7:44:58 PM
Subject: FYI: New Commentary posted at <http://flintwaterstudy.org/>

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COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis

September 30, 2015September 30, 2015 [Siddhartha Roy Articles](#)

Primary Author: Dr. Marc Edwards

Acknowledgements: Curt Guyette, LeeAnne Walters, Melissa Mays, Siddhartha Roy

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"...the state DEQ is just as perplexed by Edwards' results as he seems to be by the City's test results. When I said we were unsure how the Virginia Tech team got its results, that's not the same as being surprised that they got them. ...this group specializes in looking for high lead problems. They pull that rabbit out of that hat everywhere they go. Nobody should be

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Now that Dr. Mona Hanna-Attisha and Hurley Medical Center researchers have revealed that the rising levels of lead in Flint water have been associated with increased blood lead of Flint's children, our early health advice has been vindicated by most accounts. But MDEQ still dismisses the water controversy as "near-hysteria," and characterizes the Hurley study conclusions as **"unfortunate"** if not quite **"irresponsible."**

Given MDEQ's insistence that there is absolutely nothing wrong with Flint water, we have created a timeline that illustrates how MDEQ's mistakes and deception created the Flint Water Crisis in the first place. Our analysis relies on e-mails and documents obtained through Freedom of Information Act (FOIA) requests by the American Civil Liberties Union-Michigan (ACLU of Michigan) and FlintWaterStudy.org.

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MDEQ never required Flint to have a corrosion control program, nor did it set water quality parameters for the new Flint River source

water. While MDEQ asserts that they are acting proactively to get a corrosion control program in Flint, there is no provision in the LCR that allows for corrosion control to ever be interrupted.

As a direct result of this mistake, Flint residents have been completely unprotected from elevated lead in water from the moment the switch to Flint River water was made. This has created a conflict of interest for MDEQ ever since. Specifically, MDEQ's failure to require a corrosion control program is what created the Flint water crisis in the first place—they now have a vested interest in covering up the problem.

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Even if we assume MDEQ was confused about its obligations under the LCR, when problems with high lead started to crop up in February 2015, they should have quickly acted to correct the mistake. Samples with high lead were reported at the University of Michigan-Flint Campus, and on February 26, 2015 Mike Glasgow (City of Flint) did excellent detective work discovering high lead (over 100 ppb) in water samples from Flint resident Lee-Anne Walters' home.

Ms. Walters immediately forwarded her results to representatives of USEPA Region 5, who in turn immediately forwarded the results to Stephen Busch and Mike Prysby (MDEQ) with the subject line **"HIGH LEAD: FLINT Water testing Results"** The EPA e-mail correctly informed MDEQ that Ms. Walters' high lead was likely due to **"... the different chemistry water...leaching out contaminants from the insides of...the pipes."** But MDEQ denied to EPA that that Flint had a lead in water problem.

At that point, EPA Region 5 lead-in-water expert Miguel Del Toral asked MDEQ a question through another EPA employee:

"Miguel was wondering if Flint is feeding Phosphates. Flint must have Optimal Corrosion Control Treatment-is it Phosphates?"

On February 27th, 2015, MDEQ's Stephen Busch unequivocally and falsely responded to EPA that:

“The City of Flint...Has an Optimized Corrosion Control Program <and> Conducts quarterly Water Quality Parameter monitoring at 25 sites and has not had any unusual results.”

Reassured by MDEQ's false statement, Del Toral ended USEPA's February conversation with MDEQ by stating:

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MDEQ's response, delivered in a voicemail to Del Toral on March 19, 2015, stated that ***MDEQ had investigated and found Ms. Walters' high lead was due to lead sources in her plumbing.*** On March 27, 2015, Walters' son, who had been having health problems, was tested for lead in his blood. The blood lead results came back high— well over the 5 ug/dL CDC threshold of concern.

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With good reason, Lee-Anne Walters did not accept the MDEQ's explanation to Del Toral for the high lead in her water. The internal plumbing had been stolen from the house before it was purchased, and they had installed new (lead free) plastic plumbing before moving in.

Walters also checked up on the MDEQ statement that Flint had “an Optimized Corrosion Control Program.” She called the City of Flint, and city officials correctly informed her that there was no program at all.

Walters then passed this alarming information along to EPA’s Del Toral, who on April 23rd e-mailed MDEQ, and again asked what corrosion control program Flint was using. It was only then that MDEQ finally acknowledged that there was NO program. Concerned due to the very high occurrence of lead service lines (LSLs) in Flint, on April 27th Del Toral wrote an EPA Region 5 internal e-mail stating:

“Flint has not been operating any corrosion control treatment, which is very concerning given the likelihood of LSLs in the City.”

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The next morning Edwards talked Walters through an intensive 30 bottle sampling protocol. When the bottles were returned to Virginia Tech and analyzed, Edwards and his senior research scientist Dr. Jeff Parks were stunned by the results. The average lead in was 2,429 ppb lead, the high was 13,200 ppb, and even after 25 minutes flushing the water never dropped below 200 ppb. After Walters told Del Toral about the high lead results, he drove back to Flint, just in time to observe the City replacing the service line to Walters’ home. He personally collected a sample of the pipe and verified it to be pure lead.

In a follow-up memo dated June 24, 2015, which was sent to both Walters and Edwards, Del Toral outlined numerous concerns about the situation regarding the serious lead corrosion problem in Flint. *He included a clear recommendation that the USEPA investigate whether*

the City of Flint was in compliance with federal laws for lead corrosion control.

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“We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results, Flint’s 90th percentile is over the AL for lead.”

In the next five days the City collected 30 samples, all of which were below the action level, and did not reach the 100 sample target. If all 71 submitted samples had been considered valid, the City would have exceeded the 15 ppb action level. *Federal law would then require that Flint residents be provided information about how to protect themselves and their children from lead in water. MDEQ’s failure to install corrosion control would have been flagged as an obvious mistake. But none of that happened.*

Instead, the MDEQ “revised” the City’s original LCR report, invalidating two high lead results, so that the 90th’ile was under the 15 ppb action level. The validity of samples showing low lead in the City’s sampling was never questioned. This is a problem, because the City has now admitted that they do not know which homes had lead pipe, even though it is stated in writing in the report that all sampled homes had lead pipe. By law, at least 50 percent of the homes sampled must be verified to have lead pipe, and the remainder of homes sampled must have been built before 1986 and known to have lead solder.

There is no basis for believing that this requirement was met in either the 2014 or 2015 LCR sampling events conducted by the City. Hence, the City of Flint has not had a valid LCR sampling event since the switch to Flint River water.

MDEQ then lowered the minimum number of required samples from 100 to 60, making it look like the City of Flint had met the target. MDEQ also did not question the City's open acknowledgement that homes from 2014 had not been re-sampled, or that high risk (Tier 1) sites were not used. The original report, due July 10th, was also late by several weeks. All of these violations of federal law were glossed over, to make it appear that the City had passed its lead testing with flying colors. Just like that, according to MDEQ at least, the City of Flint had no LCR violations at all.

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To: Schock, Michael[Schock.Michael@epa.gov]; Lytle, Darren[Lytle.Darren@epa.gov]
From: Porter, Andrea
Sent: Wed 9/30/2015 7:47:38 PM
Subject: FW: FYI: New Commentary posted at <http://flintwaterstudy.org/>

fyi

From: Shoven, Heather
Sent: Wednesday, September 30, 2015 2:45 PM
To: Poy, Thomas; Damato, Nicholas; Bair, Rita; Deltoral, Miguel; Porter, Andrea; Crooks, Jennifer; Glowacki, Joanna; Kempic, Jeffrey; Darman, Leslie; King, Carol; Moriarty, Edward; Lopez-Carbo, Maria; Viveiros, Edward; Banks, Victoria
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To: Frey, Bert[frey.bertram@epa.gov]; Lupton, Jane[lupton.jane@epa.gov]; Lee, Sandra[lee.sandra@epa.gov]
From: Glowacki, Joanna
Sent: Wed 9/30/2015 7:50:02 PM
Subject: FW: FYI: New Commentary posted at <http://flintwaterstudy.org/>

FYI

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

Chicago, Illinois 60604

312-353-3757

312-385-5464 fax

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Sent: Wednesday, September 30, 2015 2:45 PM

To: Poy, Thomas; Damato, Nicholas; Bair, Rita; Deltoral, Miguel; Porter, Andrea; Crooks, Jennifer; Glowacki, Joanna; Kempic, Jeffrey; Darman, Leslie; King, Carol; Moriarty, Edward; Lopez-Carbo, Maria; Viveiros, Edward; Banks, Victoria

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COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis

September 30, 2015September 30, 2015 Siddhartha Roy Articles

Primary Author: Dr. Marc Edwards

Acknowledgements: Curt Guyette, LeeAnne Walters, Melissa Mays, Siddhartha Roy

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"...the state DEQ is just as perplexed by Edwards' results as he seems to be by the City's test results. When I said we were unsure how the Virginia Tech team got its results, that's not the same as being surprised that they got them. ...this group specializes in looking for high lead problems. They pull that rabbit out of that hat everywhere they go. Nobody should be surprised when the rabbit comes out of the hat, even if they can't figure out how it is done.....while the state appreciates academic participation in this discussion, offering broad, dire public health advice based on some quick testing could be seen as fanning political flames irresponsibly. Residents of Flint concerned about the health of their community don't need more of that."

Now that Dr. Mona Hanna-Attisha and Hurley Medical Center researchers have revealed that the rising levels of lead in Flint water have been associated with increased blood lead of Flint's children, our early health advice has been vindicated by most accounts. But MDEQ still dismisses the water controversy as "near-hysteria," and characterizes the Hurley study conclusions as ***"unfortunate"*** if not quite ***"irresponsible."***

Given MDEQ's insistence that there is absolutely nothing wrong with

Flint water, we have created a timeline that illustrates how MDEQ's mistakes and deception created the Flint Water Crisis in the first place. Our analysis relies on e-mails and documents obtained through Freedom of Information Act (FOIA) requests by the American Civil Liberties Union-Michigan (ACLU of Michigan) and FlintWaterStudy.org.

All FOIA documents are provided at the end of this article for review.

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MDEQ never required Flint to have a corrosion control program, nor did it set water quality parameters for the new Flint River source water. While MDEQ asserts that they are acting proactively to get a corrosion control program in Flint, there is no provision in the LCR that allows for corrosion control to ever be interrupted.

As a direct result of this mistake, Flint residents have been completely unprotected from elevated lead in water from the moment the switch to Flint River water was made. This has created a conflict of interest for MDEQ ever since. Specifically, MDEQ's failure to require a corrosion control program is what created the Flint water crisis in the first place—they now have a vested interest in covering up the problem.

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Even if we assume MDEQ was confused about its obligations under

the LCR, when problems with high lead started to crop up in February 2015, they should have quickly acted to correct the mistake. Samples with high lead were reported at the University of Michigan-Flint Campus, and on February 26, 2015 Mike Glasgow (City of Flint) did excellent detective work discovering high lead (over 100 ppb) in water samples from Flint resident Lee-Anne Walters' home.

Ms. Walters immediately forwarded her results to representatives of USEPA Region 5, who in turn immediately forwarded the results to Stephen Busch and Mike Prysby (MDEQ) with the subject line **"HIGH LEAD: FLINT Water testing Results"** The EPA e-mail correctly informed MDEQ that Ms. Walters' high lead was likely due to *"... the different chemistry water...leaching out contaminants from the insides of...the pipes."* But MDEQ denied to EPA that that Flint had a lead in water problem.

At that point, EPA Region 5 lead-in-water expert Miguel Del Toral asked MDEQ a question through another EPA employee:

"Miguel was wondering if Flint is feeding Phosphates. Flint must have Optimal Corrosion Control Treatment-is it Phosphates?"

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"The City of Flint...Has an Optimized Corrosion Control Program <and> Conducts quarterly Water Quality Parameter monitoring at 25 sites and has not had any unusual results."

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"If I remember correctly, Detroit is feeding PO4 for the LCR, but since Flint is no longer part of that interconnection, I was wondering what their <Optimal Corrosion Control> was. They are required to have <Optimal Corrosion Control> in place which is why I was asking what they were using."

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MDEQ’s response, delivered in a voicemail to Del Toral on March 19, 2015, stated that *MDEQ had investigated and found Ms. Walters’ high lead was due to lead sources in her plumbing*. On March 27, 2015, Walters’ son, who had been having health problems, was tested for lead in his blood. The blood lead results came back high— well over the 5 ug/dL CDC threshold of concern.

Phase 3. Walters and Del Toral Investigate the Veracity of MDEQ Statements (April to June 2015)

With good reason, Lee-Anne Walters did not accept the MDEQ’s explanation to Del Toral for the high lead in her water. The internal plumbing had been stolen from the house before it was purchased, and they had installed new (lead free) plastic plumbing before moving in.

Walters also checked up on the MDEQ statement that Flint had “an Optimized Corrosion Control Program.” She called the City of Flint, and city officials correctly informed her that there was no program at all.

Walters then passed this alarming information along to EPA’s Del Toral, who on April 23rd e-mailed MDEQ, and again asked what corrosion control program Flint was using. It was only then that MDEQ finally acknowledged that there was NO program. Concerned due to the very high occurrence of lead service lines (LSLs) in Flint, on April 27th Del Toral wrote an EPA Region 5 internal e-mail stating:

“Flint has not been operating any corrosion control treatment, which is very concerning given the likelihood of LSLs in the City.”

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In a follow-up memo dated June 24, 2015, which was sent to both Walters and Edwards, Del Toral outlined numerous concerns about the situation regarding the serious lead corrosion problem in Flint. *He included a clear recommendation that the USEPA investigate whether the City of Flint was in compliance with federal laws for lead corrosion control.*

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To: Frey, Bert[frey.bertram@epa.gov]; Lupton, Jane[lupton.jane@epa.gov]; Lee, Sandra[lee.sandra@epa.gov]
From: Glowacki, Joanna
Sent: Wed 9/30/2015 7:50:02 PM
Subject: FW: FYI: New Commentary posted at <http://flintwaterstudy.org/>

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>>>>>>>>
FYI

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

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312-385-5464 fax

From: Shoven, Heather

Sent: Wednesday, September 30, 2015 2:45 PM

To: Poy, Thomas; Damato, Nicholas; Bair, Rita; Deltoral, Miguel; Porter, Andrea; Crooks, Jennifer; Glowacki, Joanna; Kempic, Jeffrey; Darman, Leslie; King, Carol; Moriarty, Edward; Lopez-Carbo, Maria; Viveiros, Edward; Banks, Victoria

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From: Frey, Bert
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Sent: Wednesday, September 30, 2015 2:50 PM
To: Frey, Bert; Lupton, Jane; Lee, Sandra
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"...the state DEQ is just as perplexed by Edwards' results as he seems to be by the City's test results. When I said we were unsure how the Virginia Tech team got its results, that's not the same as being surprised that they got them. ...this group specializes in looking for high lead problems. They pull that rabbit out of that hat everywhere they go. Nobody should be surprised when the rabbit comes out of the hat, even if they can't figure out how it is done.....while the state appreciates academic participation in this discussion, offering broad, dire public health advice based on some quick testing could be seen as fanning political flames irresponsibly. Residents of Flint concerned about the health of their community don't need more of that."

Now that Dr. Mona Hanna-Attisha and Hurley Medical Center researchers have revealed that the rising levels of lead in Flint water have been associated with increased blood lead of Flint's children, our early health advice has been vindicated by most accounts. But MDEQ still dismisses the water controversy as "near-hysteria," and characterizes the Hurley study conclusions as ***"unfortunate"*** if not quite ***"irresponsible."***

Given MDEQ's insistence that there is absolutely nothing wrong with Flint water, we have created a timeline that illustrates how MDEQ's mistakes and deception created the Flint Water Crisis in the first place. Our analysis relies on e-mails and documents obtained through Freedom of Information Act (FOIA) requests by the American Civil Liberties Union-Michigan (ACLU of Michigan) and FlintWaterStudy.org.

All FOIA documents are provided at the end of this article for review.

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MDEQ never required Flint to have a corrosion control program, nor did it set water quality parameters for the new Flint River source water. While MDEQ asserts that they are acting proactively to get a corrosion control program in Flint, there is no provision in the LCR that allows for corrosion control to ever be interrupted.

As a direct result of this mistake, Flint residents have been completely unprotected from elevated lead in water from the moment the switch to Flint River water was made. This has created a conflict of interest

for MDEQ ever since. Specifically, MDEQ's failure to require a corrosion control program is what created the Flint water crisis in the first place—they now have a vested interest in covering up the problem.

Phase 2. MDEQ misinforms the USEPA about Flint's Corrosion Control (February-March 2015)

Even if we assume MDEQ was confused about its obligations under the LCR, when problems with high lead started to crop up in February 2015, they should have quickly acted to correct the mistake. Samples with high lead were reported at the University of Michigan-Flint Campus, and on February 26, 2015 Mike Glasgow (City of Flint) did excellent detective work discovering high lead (over 100 ppb) in water samples from Flint resident Lee-Anne Walters' home.

Ms. Walters immediately forwarded her results to representatives of USEPA Region 5, who in turn immediately forwarded the results to Stephen Busch and Mike Prysby (MDEQ) with the subject line **"HIGH LEAD: FLINT Water testing Results"** The EPA e-mail correctly informed MDEQ that Ms. Walters' high lead was likely due to *"... the different chemistry water...leaching out contaminants from the insides of...the pipes."* But MDEQ denied to EPA that that Flint had a lead in water problem.

At that point, EPA Region 5 lead-in-water expert Miguel Del Toral asked MDEQ a question through another EPA employee:

"Miguel was wondering if Flint is feeding Phosphates. Flint must have Optimal Corrosion Control Treatment-is it Phosphates?"

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"The City of Flint...Has an Optimized Corrosion Control Program <and> Conducts quarterly Water Quality Parameter monitoring at 25 sites and has not had any unusual results."

Reassured by MDEQ's false statement, Del Toral ended USEPA's

February conversation with MDEQ by stating:

“If I remember correctly, Detroit is feeding PO4 for the LCR, but since Flint is no longer part of that interconnection, I was wondering what their <Optimal Corrosion Control> was. They are required to have <Optimal Corrosion Control> in place which is why I was asking what they were using.”

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Phase 3. Walters and Del Toral Investigate the Veracity of MDEQ Statements (April to June 2015)

With good reason, Lee-Anne Walters did not accept the MDEQ’s explanation to Del Toral for the high lead in her water. The internal plumbing had been stolen from the house before it was purchased, and they had installed new (lead free) plastic plumbing before moving in.

Walters also checked up on the MDEQ statement that Flint had “an Optimized Corrosion Control Program.” She called the City of Flint, and city officials correctly informed her that there was no program at all.

Walters then passed this alarming information along to EPA’s Del Toral, who on April 23rd e-mailed MDEQ, and again asked what

corrosion control program Flint was using. It was only then that MDEQ finally acknowledged that there was NO program. Concerned due to the very high occurrence of lead service lines (LSLs) in Flint, on April 27th Del Toral wrote an EPA Region 5 internal e-mail stating:

“Flint has not been operating any corrosion control treatment, which is very concerning given the likelihood of LSLs in the City.”

That night Del Toral also stopped at Walters’ house on a trip north, and personally inspected her plumbing first hand. He confirmed it was plastic and lead-free. Del Toral also dropped off sample bottles at the Walters’ home, and told her that if she wanted an analysis to contact Professor Marc Edwards (the author of this article and Principal Investigator of FlintWaterStudy.org) at Virginia Tech.

The next morning Edwards talked Walters through an intensive 30 bottle sampling protocol. When the bottles were returned to Virginia Tech and analyzed, Edwards and his senior research scientist Dr. Jeff Parks were stunned by the results. The average lead in was 2,429 ppb lead, the high was 13,200 ppb, and even after 25 minutes flushing the water never dropped below 200 ppb. After Walters told Del Toral about the high lead results, he drove back to Flint, just in time to observe the City replacing the service line to Walters’ home. He personally collected a sample of the pipe and verified it to be pure lead.

In a follow-up memo dated June 24, 2015, which was sent to both Walters and Edwards, Del Toral outlined numerous concerns about the situation regarding the serious lead corrosion problem in Flint. *He included a clear recommendation that the USEPA investigate whether the City of Flint was in compliance with federal laws for lead corrosion control.*

Phase 4. MDEQ “Handles” the LCR Report, ACLU-Michigan, Virginia Tech and Miguel Del Toral (July to August 2015)

> **“Revising” the Original LCR Report**. In spite of all the problems

documented with lead in Flint water from February to June 2015, Flint and MDEQ took a lackadaisical approach to the federally required LCR sampling program. Specifically, just 5 days before the June 30th deadline to collect the 100 samples that MDEQ required, the City had only collected 39 samples.

Adam Rosenthal (MDEQ) e-mailed Mike Glasgow at the City of Flint:

“We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results, Flint’s 90th percentile is over the AL for lead.”

In the next five days the City collected 30 samples, all of which were below the action level, and did not reach the 100 sample target. If all 71 submitted samples had been considered valid, the City would have exceeded the 15 ppb action level. *Federal law would then require that Flint residents be provided information about how to protect themselves and their children from lead in water. MDEQ’s failure to install corrosion control would have been flagged as an obvious mistake. But none of that happened.*

Instead, the MDEQ “revised” the City’s original LCR report, invalidating two high lead results, so that the 90th percentile was under the 15 ppb action level. The validity of samples showing low lead in the City’s sampling was never questioned. This is a problem, because the City has now admitted that they do not know which homes had lead pipe, even though it is stated in writing in the report that all sampled homes had lead pipe. By law, at least 50 percent of the homes sampled must be verified to have lead pipe, and the remainder of homes sampled must have been built before 1986 and known to have lead solder. There is no basis for believing that this requirement was met in either the 2014 or 2015 LCR sampling events conducted by the City. Hence, the City of Flint has not had a valid LCR sampling event since the switch to Flint River water.

MDEQ then lowered the minimum number of required samples from 100 to 60, making it look like the City of Flint had met the target.

MDEQ also did not question the City's open acknowledgement that homes from 2014 had not been re-sampled, or that high risk (Tier 1) sites were not used. The original report, due July 10th, was also late by several weeks. All of these violations of federal law were glossed over, to make it appear that the City had passed its lead testing with flying colors. Just like that, according to MDEQ at least, the City of Flint had no LCR violations at all.

> **ACLU-Michigan FOIA.** The timing by which the "revised" LCR report was created, is also of interest. On July 22, 2015, the ACLU-Michigan submitted a FOIA to MDEQ, requesting the City of Flint's LCR report supposedly due on July 10, 2015. The City's original LCR report with all the obvious problems is dated July 28, 2015. MDEQ never provided the ACLU-Michigan with the original LCR report. Instead, they created the scrubbed revised report, on August 20, 2015, and sent that report to ALCU-Michigan (from the City of Flint) the next day. In the comments section of the report, Flint openly states *"Revised report after conference call with DEQ staff. Two samples were removed from list for not meeting sample criteria, and due to population the number of samples was reduced to 60."*

> **MDEQ to FlintWaterStudy.org FOIA: What conference call?** On September 9, 2015, Virginia Tech submitted a FOIA to MDEQ explicitly requesting records and minutes of the conference call between DEQ staff and Flint cited in the revised LCR report. This FOIA request has been denied by MDEQ, because *"Your request does not include the date/time of the conference call and who from the Department of Environmental Quality participated on the conference call."* FlintWaterStudy.org immediately appealed the withholding of documents related to the conference call to the State of Michigan. On September 28th, our appeal was denied. We may commence a civil action if we do not agree with the decision.

> **Handling Miguel Del Toral.** MDEQ obviously had a major problem on its hands with EPA's lead-in-water expert Miguel Del Toral. On August 4th 2015, Lee-Anne Walters and Melissa Mays met with MDEQ officials to discuss Flint's lead in water problems. The MDEQ officials

participating in the meeting were identified by Mays and Walters, as Liane Shekter-Smith (Chief of the Office of Drinking Water and Municipal Assistance), Stephen Busch and Brad Wurfel.

According to Walters and Mays, Shekter-Smith bragged that ***“Mr. Del Toral has been handled,”*** and that Flint residents would not be hearing from him again. Moreover, MDEQ asserted that Mr. Del Toral’s interim memo detailing the many problems with Flint’s (non-existent) corrosion control program ***“would never be finalized.”*** Just yesterday, NPR released a slightly different, but enlightening version of Wurfel’s take on Del Toral and the memo:

MDEQ spokesman Brad Wurfel says the report was the work of a “rogue employee,” and promised the final report — not yet released — would tell a much different story.

Mays and Walters vividly recall Wurfel, smirking or laughing, whenever they expressed concern about elevated lead in Flint’s water. Looking back on the exchange yesterday, Mays stated ***“It is shocking how their refusal to admit they made a mistake, trumped the dangers their actions pose to Flint’s children.”***

Angered, Lee-Anne Walters then called Edwards, and informed him that Del Toral would no longer be working on Flint water issues, and the two discussed the clear implication that EPA bureaucrats had intervened to prevent Del Toral from further exposing MDEQ’s numerous blunders and the health threat to Flint residents. She further stated that ***“It is too late for my son, but I will not stand by and let this happen to another other innocent child in Flint.”***

Clearly, the MDEQ, City of Flint and even the USEPA (with the obvious exception of Del Toral) have proved themselves unworthy of the public trust. Flint residents have been left to fend for themselves, when it comes to dealing with the dangers of high lead in their water.

FlintWaterStudy was launched an hour after the phone call from Ms. Walters, to help the citizens of Flint deal with the lead-in-water crisis that MDEQ created, and to correct any false statements by uncaring

agencies that have left Flint's children in harm's way.

FOIA Documents:

Emails between MDEQ, USEPA, and Ms. LeeAnne Walters:

[Download \(PDF, 169KB\)](#)

Original LCR Report from City of Flint to MDEQ:

[Download \(PDF, 94KB\)](#)

Revised LCR Report from City of Flint to MDEQ:

[Download \(PDF, 357KB\)](#)

FlintWaterStudy.org's FOIA Appeal Denied:

[Download \(PDF, 15KB\)](#)

OCE Weekly
EPA internal only
October 1, 2015

Flint, Michigan's Lead and Copper Rule Issues

Background

- The City of Flint is a large public water system (PWS) regulated under the Safe Drinking Water Act (SDWA), serving approximately 100,000 customers.
- Until 2014 Flint purchased finished drinking water (i.e., intended for consumption without further treatment) from Detroit, which uses water from Lake Huron. But in April 2014 Flint stopped using Detroit's services and started treating raw water from the Flint River.
- When Flint ceased being a consecutive PWS (i.e., received finished water from Detroit) it triggered various federal National Primary Drinking Water Regulations, including additional requirements under the Lead and Copper Rule (LCR).
- Before it started to provide service, Flint failed to develop and implement a corrosion control treatment (CCT) plan as required by the LCR. Detroit had provided CCT under its wholesale agreement with Flint and the LCR requires CCT be maintained with a new source.
- Voluntary tap water testing by Virginia Tech has revealed high lead levels in Flint. Additionally, testing shows elevated blood levels in children under five since Flint switched its drinking water source in 2014.
- Congressman Daniel Kildee, local physicians groups, researchers from Virginia Tech and the American Civil Liberties Union have intervened, raising concerns about lead poisoning.
- On September 22, Flint's Mayor met with OW and OECA. The Mayor expressed concern about sensitive populations (e.g., infants and pregnant women) currently using the water.

Next Steps

- Flint is currently developing a CCT plan, but it is not expected to be operational until January 2016. Then it may take additional time to adjust the CCT to optimal levels, as often occurs in PWSs given water chemistry issues. Here the task may be challenging because:
 - Flint River water is highly corrosive.
 - Flint has old infrastructure (e.g., lead service lines in the distribution system).
- Among other things, EPA is considering the issuance of a SDWA Section 1431 emergency order, requiring Flint to provide bottled water and/or certified filters to its residents as an interim measure (i.e., as lead levels may remain variable, high before CCT is optimized).
 - During his visit, Flint's Mayor asked about providing bottled water to residents.
 - As of September 29, it appears the Michigan Department of Environmental Quality (MDEQ) and Flint have a plan to address short term concerns, including the provision of filters to households with infants and children.
- EPA has concerns MDEQ, who has primacy for LCR, has not correctly applied LCR's provisions for PWSs switching to new sources and making long-term treatment changes.
- Region 5 is drafting a letter to MDEQ regarding Flint's past LCR violations and a broader letter in light of the roughly 12 other communities planning to stop purchasing water from Detroit, like Flint did in 2014. It appears these other communities plan to use a separate pipeline from Lake Huron and treat their own water.

To: Burneson, Eric[Burneson.Eric@epa.gov]
From: Christ, Lisa
Sent: Wed 9/30/2015 8:11:24 PM
Subject: MI 10 point plan

FYI -- OCCT is point 7

From: Grevatt, Peter
Sent: Tuesday, September 29, 2015 12:48 PM
To: Hannon, Arnita
Cc: Asher, Jonathan; Clark, Becki; Christ, Lisa; King, Carol; Burneson, Eric; Lopez-Carbo, Maria; Hannon, Arnita; Galada, Heather; Greene, Ashley; Hedman, Susan
Subject: Re: Flint happenings

Thanks Arnita. I had not seen this. Please let me know if you need any assistance from us.

Sent from my iPhone

On Sep 29, 2015, at 11:40 AM, Hannon, Arnita <Hannon.Arnita@epa.gov> wrote:

FYI! Sorry if you already have this but just making sure.

Thank you!

Sent from my iPhone

Begin forwarded message:

From: "Rupp, Mark" <Rupp.Mark@epa.gov>
Date: September 29, 2015 at 12:33:36 PM EDT
To: "Hannon, Arnita" <Hannon.Arnita@epa.gov>, "Barbery, Andrea" <Barbery.Andrea@epa.gov>, "Cook-Shyovitz, Becky" <Cook-Shyovitz.Becky@epa.gov>, "Bowles, Jack" <Bowles.Jack@epa.gov>
Subject: Flint happenings

The State and City are pulling together a "ten point plan" and they have asked for EPA's help to work out the details. The goal is to have a press conference on Thursday or Friday to announce the following:

1. Bottled water and pre-mixed formula for households with infants and children (the Michigan Department of Health and Human Services is working with USDA to do this through the WIC program)
2. Lead filters for households with infants and children (a group of nonprofits has pledged \$1 million for this purpose and will be working with the Meijer discount chain to obtain filters at wholesale.)
3. Water will be tested for lead in all Flint schools. (MDEQ)
4. Water will be tested for lead in all Flint households with lead service lines that have infants and children. (MDEQ)
5. All other Flint households can request a free water test. (MDEQ)
6. The State will step up health advisory/public education efforts to encourage flushing and use of filters (MDEQ/MDHHS)
7. MDEQ will establish an end date for Flint to complete implementation of fully-optimized corrosion control – and move up the start date to commence implementation of corrosion control. (The current start date is 1/16)
8. MDEQ will expand the City's Technical Advisory Committee by adding several University of Michigan scientists and will immediately convene the committee. (This committee includes ORD scientists from the Cincinnati Lab)
9. The State of Michigan's "Chief Medical Executive" will oversee a review of data that has been collected on Flint children's blood lead levels.

10. MDEQ will help Flint finance accelerated replacement of lead service lines (using SRF)

The Mayor and Director Wyant have asked Susan to go to Flint to participate in the press conference. The Mayor has also asked Susan to meet with a group of faith leaders who have been very vocal on this issue: <http://www.abc12.com/home/headlines/Rally-held--329788391.html>

To: Christ, Lisa[Christ.Lisa@epa.gov]
From: Kempic, Jeffrey
Sent: Wed 9/30/2015 8:50:56 PM
Subject: FW: FYI: New Commentary posted at <http://flintwaterstudy.org/>

Not sure if you had seen this one.

From: Shoven, Heather
Sent: Wednesday, September 30, 2015 3:45 PM
To: Poy, Thomas; Damato, Nicholas; Bair, Rita; Deltoral, Miguel; Porter, Andrea; Crooks, Jennifer; Glowacki, Joanna; Kempic, Jeffrey; Darman, Leslie; King, Carol; Moriarty, Edward; Lopez-Carbo, Maria; Viveiros, Edward; Banks, Victoria
Subject: FYI: New Commentary posted at <http://flintwaterstudy.org/>

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I have pasted the commentary below.

COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis

[September 30, 2015](#) [September 30, 2015](#) [Siddhartha Roy](#) [Articles](#)

Primary Author: Dr. Marc Edwards

Acknowledgements: Curt Guyette, LeeAnne Walters, Melissa Mays, Siddhartha Roy

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between DEQ staff and Flint cited in the revised LCR report. This FOIA request has been denied by MDEQ, because ***“Your request does not include the date/time of the conference call and who from the Department of Environmental Quality participated on the conference call.”*** FlintWaterStudy.org immediately appealed the withholding of documents related to the conference call to the State of Michigan. On September 28th, our appeal was denied. We may commence a civil action if we do not agree with the decision.

> Handling Miguel Del Toral. MDEQ obviously had a major problem on its hands with EPA’s lead-in-water expert Miguel Del Toral. On August 4th 2015, Lee-Anne Walters and Melissa Mays met with MDEQ officials to discuss Flint’s lead in water problems. The MDEQ officials participating in the meeting were identified by Mays and Walters, as Liane Shekter-Smith (Chief of the Office of Drinking Water and Municipal Assistance), Stephen Busch and Brad Wurfel.

According to Walters and Mays, Shekter-Smith bragged that ***“Mr. Del Toral has been handled,”*** and that Flint residents would not be hearing from him again. Moreover, MDEQ asserted that Mr. Del Toral’s interim memo detailing the many problems with Flint’s (non-existent) corrosion control program ***“would never be finalized.”*** Just yesterday, NPR released a slightly different, but enlightening version of Wurfel’s take on Del Toral and the memo:

MDEQ spokesman Brad Wurfel says the report was the work of a “rogue employee,” and promised the final report — not yet released — would tell a much different story.

Mays and Walters vividly recall Wurfel, smirking or laughing, whenever they expressed concern about elevated lead in Flint’s water. Looking back on the exchange yesterday, Mays stated ***“It is shocking how their refusal to admit they made a mistake, trumped the dangers their actions pose to Flint’s children.”***

Angered, Lee-Anne Walters then called Edwards, and informed him that Del Toral would no longer be working on Flint water issues, and the two discussed the clear implication that EPA bureaucrats had

intervened to prevent Del Toral from further exposing MDEQ's numerous blunders and the health threat to Flint residents. She further stated that *"It is too late for my son, but I will not stand by and let this happen to another other innocent child in Flint."*

Clearly, the MDEQ, City of Flint and even the USEPA (with the obvious exception of Del Toral) have proved themselves unworthy of the public trust. Flint residents have been left to fend for themselves, when it comes to dealing with the dangers of high lead in their water.

FlintWaterStudy was launched an hour after the phone call from Ms. Walters, to help the citizens of Flint deal with the lead-in-water crisis that MDEQ created, and to correct any false statements by uncaring agencies that have left Flint's children in harm's way.

FOIA Documents:

Emails between MDEQ, USEPA, and Ms. LeeAnne Walters:

[Download \(PDF, 169KB\)](#)

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[Download \(PDF, 94KB\)](#)

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[Download \(PDF, 357KB\)](#)

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[Download \(PDF, 15KB\)](#)

OCE Weekly
EPA internal only
October 1, 2015

Flint, Michigan's Lead and Copper Rule Issues

Background

- The City of Flint is a large public water system (PWS) regulated under the Safe Drinking Water Act (SDWA), serving approximately 100,000 customers.
- Until 2014 Flint purchased finished drinking water (i.e., intended for consumption without further treatment) from Detroit, which uses water from Lake Huron. But in April 2014 Flint stopped using Detroit's services and started treating raw water from the Flint River.
- When Flint ceased being a consecutive PWS (i.e., received finished water from Detroit) it triggered various federal National Primary Drinking Water Regulations, including additional requirements under the Lead and Copper Rule (LCR).
- Before it started to provide service, Flint failed to develop and implement a corrosion control treatment (CCT) plan as required by the LCR. Detroit had provided CCT under its wholesale agreement with Flint and the LCR requires CCT be maintained with a new source.
- Voluntary tap water testing by Virginia Tech has revealed high lead levels in Flint. Additionally, testing shows elevated blood levels in children under five since Flint switched its drinking water source in 2014.
- Congressman Daniel Kildee, local physicians groups, researchers from Virginia Tech and the American Civil Liberties Union have intervened, raising concerns about lead poisoning.
- On September 22, Flint's Mayor met with OW and OECA. The Mayor expressed concern about sensitive populations (e.g., infants and pregnant women) currently using the water.

Next Steps

- Flint is currently developing a CCT plan, but it is not expected to be operational until January 2016. Then it may take additional time to adjust the CCT to optimal levels, as often occurs in PWSs given water chemistry issues. Here the task may be challenging because:
 - Flint River water is highly corrosive.
 - Flint has old infrastructure (e.g., lead service lines in the distribution system).
- Among other things, EPA is considering the issuance of a SDWA Section 1431 emergency order, requiring Flint to provide bottled water and/or certified filters to its residents as an interim measure (i.e., as lead levels may remain variable, high before CCT is optimized).
 - During his visit, Flint's Mayor asked about providing bottled water to residents.
 - As of September 29, it appears the Michigan Department of Environmental Quality (MDEQ) and Flint have a plan to address short term concerns, including the provision of filters to households with infants and children.
- EPA has concerns MDEQ, who has primacy for LCR, has not correctly applied LCR's provisions for PWSs switching to new sources and making long-term treatment changes.
- Region 5 is drafting a letter to MDEQ regarding Flint's past LCR violations and a broader letter in light of the roughly 12 other communities planning to stop purchasing water from Detroit, like Flint did in 2014. It appears these other communities plan to use a separate pipeline from Lake Huron and treat their own water.

To: Lytle, Darren[Lytle.Darren@epa.gov]; Schock, Michael[Schock.Michael@epa.gov]
Cc: Deltoral, Miguel[deltoral.miguel@epa.gov]; Porter, Andrea[porters.andrea@epa.gov]; Bair, Rita[bair.rita@epa.gov]; Damato, Nicholas[damato.nicholas@epa.gov]; Crooks, Jennifer[crooks.jennifer@epa.gov]; Shoven, Heather[shoven.heather@epa.gov]
From: Poy, Thomas
Sent: Wed 9/30/2015 8:58:07 PM
Subject: Flint

Darren/Mike: Unless you've gotten different instructions from your management chain, I'm looking for you to provide technical assistance to Flint/MDEQ on how to best implement corrosion control for lead. Flint needs to do something as soon as possible. When the technical experts get together, there may be parallel tracks of what to do in the short-term while Flint is using the Flint River and what is the long-term solution. Even if the long-term solution is to go back to Detroit, it will take time and in the meantime the Flint River will still be used.

Obviously, knowing where lead is being found and at what concentrations will be helpful in the consideration of corrosion control implementation. The lab slips that we have of their last round of compliance monitoring is not enough to determine whether the right homes were sampled. More information from MDEQ and/or Flint will be needed and possibly collecting additional samples that the TAC may need.

Tom

Tom Poy

Chief, Ground Water and Drinking Water Branch

USEPA - Region 5

(312) 886-5991

To: Meiburg, Stan[Meiburg.Stan@epa.gov]; Burke, Thomas[Burke.Thomas@epa.gov]; Vaught, Laura[Vaught.Laura@epa.gov]; Fritz, Matthew[Fritz.Matthew@epa.gov]
From: Hedman, Susan
Sent: Wed 9/30/2015 9:13:36 PM
Subject: Fwd: FYI: New Commentary posted at <http://flintwaterstudy.org/>

Please take a look at the most recent posting by Marc Edwards

Sent from my iPhone

Begin forwarded message:

From: "Frey, Bert" <frej.bertram@epa.gov>
Date: September 30, 2015 at 2:52:13 PM CDT
To: "Hedman, Susan" <hedman.susan@epa.gov>, "Kaplan, Robert" <kaplan.robert@epa.gov>, "Hyde, Tinka" <hyde.tinka@epa.gov>
Subject: FW: FYI: New Commentary posted at <http://flintwaterstudy.org/>

FYI

From: Glowacki, Joanna
Sent: Wednesday, September 30, 2015 2:50 PM
To: Frey, Bert; Lupton, Jane; Lee, Sandra
Subject: FW: FYI: New Commentary posted at <http://flintwaterstudy.org/>

FYI

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

Chicago, Illinois 60604

312-353-3757

312-385-5464 fax

From: Shoven, Heather

Sent: Wednesday, September 30, 2015 2:45 PM

To: Poy, Thomas; Damato, Nicholas; Bair, Rita; Deltoral, Miguel; Porter, Andrea; Crooks, Jennifer; Glowacki, Joanna; Kempic, Jeffrey; Darman, Leslie; King, Carol; Moriarty, Edward; Lopez-Carbo, Maria; Viveiros, Edward; Banks, Victoria

Subject: FYI: New Commentary posted at <http://flintwaterstudy.org/>

<http://flintwaterstudy.org/>

I have pasted the commentary below.

COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis

September 30, 2015September 30, 2015 [Siddhartha Roy Articles](#)

Primary Author: Dr. Marc Edwards

Acknowledgements: Curt Guyette, LeeAnne Walters, Melissa Mays, Siddhartha Roy

As results of [our collaborative research with Flint residents](#) exposed widespread problems with elevated levels of lead in Flint's water, the Michigan Department of Environmental Quality (MDEQ) repeatedly attempted to discredit our findings and downplay the public health threat. For example, MDEQ's Communications Director Brad Wurfel wrote to The Flint Journal's Ronald Fonger:

“...the state DEQ is just as perplexed by Edwards’ results as he seems to be by the City’s test results. When I said we were unsure how the Virginia Tech team got its results, that’s not the same as being surprised that they got them. ...this group specializes in looking for high lead problems. They pull that rabbit out of that hat everywhere they go. Nobody should be surprised when the rabbit comes out of the hat, even if they can’t figure out how it is done.....while the state appreciates academic participation in this discussion, offering broad, dire public health advice based on some quick testing could be seen as fanning political flames irresponsibly. Residents of Flint concerned about the health of their community don’t need more of that.”

Now that [Dr. Mona Hanna-Attisha](#) and Hurley Medical Center researchers have revealed that [the rising levels of lead in Flint water have been associated with increased blood lead of Flint’s children](#), our early health advice has been vindicated by most accounts. But [MDEQ still dismisses the water controversy as “near-hysteria,”](#) and characterizes the Hurley study conclusions as *“unfortunate”* if not quite *“irresponsible.”*

Given MDEQ’s insistence that there is absolutely nothing wrong with Flint water, we have created a timeline that illustrates how MDEQ’s mistakes and deception created the Flint Water Crisis in the first place. Our analysis relies on e-mails and documents obtained through Freedom of Information Act (FOIA) requests by the American Civil Liberties Union-Michigan (ACLU of Michigan) and [FlintWaterStudy.org](#).

All FOIA documents are provided at the end of this article for review.

Phase 1. MDEQ Fails to Require Corrosion Control for Flint River Water (April 2014)

Effective July 1998, the federal Lead and Copper Rule (LCR) has required that all large public water systems maintain a program to

control levels of lead in drinking water from corrosion. Moreover, the law also requires the City of Flint to have a state approved plan, with enforceable regulatory limits for “Water Quality Parameters” including pH, alkalinity and/or corrosion inhibitor dose measured in the water distribution system.

MDEQ never required Flint to have a corrosion control program, nor did it set water quality parameters for the new Flint River source water. While MDEQ asserts that they are acting proactively to get a corrosion control program in Flint, there is no provision in the LCR that allows for corrosion control to ever be interrupted.

As a direct result of this mistake, Flint residents have been completely unprotected from elevated lead in water from the moment the switch to Flint River water was made. This has created a conflict of interest for MDEQ ever since. Specifically, MDEQ’s failure to require a corrosion control program is what created the Flint water crisis in the first place—they now have a vested interest in covering up the problem.

Phase 2. MDEQ misinforms the USEPA about Flint’s Corrosion Control (February-March 2015)

Even if we assume MDEQ was confused about its obligations under the LCR, when problems with high lead started to crop up in February 2015, they should have quickly acted to correct the mistake. Samples with high lead were reported at the University of Michigan-Flint Campus, and on February 26, 2015 Mike Glasgow (City of Flint) did excellent detective work discovering high lead (over 100 ppb) in water samples from Flint resident Lee-Anne Walters’ home.

Ms. Walters immediately forwarded her results to representatives of USEPA Region 5, who in turn immediately forwarded the results to Stephen Busch and Mike Prysby (MDEQ) with the subject line **“HIGH LEAD: FLINT Water testing Results”** The EPA e-mail correctly informed MDEQ that Ms. Walters’ high lead was likely due to **“... the different chemistry water...leaching out**

contaminants from the insides of...the pipes.” But MDEQ denied to EPA that that Flint had a lead in water problem.

At that point, EPA Region 5 lead-in-water expert Miguel Del Toral asked MDEQ a question through another EPA employee:

“Miguel was wondering if Flint is feeding Phosphates. Flint must have Optimal Corrosion Control Treatment-is it Phosphates?”

On February 27th, 2015, MDEQ’s Stephen Busch unequivocally and falsely responded to EPA that:

“The City of Flint...Has an Optimized Corrosion Control Program <and> Conducts quarterly Water Quality Parameter monitoring at 25 sites and has not had any unusual results.”

Reassured by MDEQ’s false statement, Del Toral ended USEPA’s February conversation with MDEQ by stating:

“If I remember correctly, Detroit is feeding PO4 for the LCR, but since Flint is no longer part of that interconnection, I was wondering what their <Optimal Corrosion Control> was. They are required to have <Optimal Corrosion Control> in place which is why I was asking what they were using.”

On March 18, 2015, Lee-Anne Walters’ home was retested after flushing her system thoroughly. This time the test result came back even worse with 397 ppb lead— almost 40 times higher than the World Health Organization 10 ppb safety threshold. EPA Region 5 forwarded the results to MDEQ, with a query ***“Any thoughts on how to respond to her? I’m running out of ideas.”***

MDEQ’s response, delivered in a voicemail to Del Toral on March 19, 2015, stated that ***MDEQ had investigated and found Ms. Walters’ high lead was due to lead sources in her plumbing.*** On March 27, 2015, Walters’ son, who had been having health problems, was tested for lead in his blood. The blood lead results came back high— well over the 5 ug/dL CDC threshold of concern.

Phase 3. Walters and Del Toral Investigate the Veracity of MDEQ Statements (April to June 2015)

With good reason, Lee-Anne Walters did not accept the MDEQ's explanation to Del Toral for the high lead in her water. The internal plumbing had been stolen from the house before it was purchased, and they had installed new (lead free) plastic plumbing before moving in.

Walters also checked up on the MDEQ statement that Flint had "an Optimized Corrosion Control Program." She called the City of Flint, and city officials correctly informed her that there was no program at all.

Walters then passed this alarming information along to EPA's Del Toral, who on April 23rd e-mailed MDEQ, and again asked what corrosion control program Flint was using. It was only then that MDEQ finally acknowledged that there was NO program. Concerned due to the very high occurrence of lead service lines (LSLs) in Flint, on April 27th Del Toral wrote an EPA Region 5 internal e-mail stating:

"Flint has not been operating any corrosion control treatment, which is very concerning given the likelihood of LSLs in the City."

That night Del Toral also stopped at Walters' house on a trip north, and personally inspected her plumbing first hand. He confirmed it was plastic and lead-free. Del Toral also dropped off sample bottles at the Walters' home, and told her that if she wanted an analysis to contact Professor Marc Edwards (the author of this article and Principal Investigator of FlintWaterStudy.org) at Virginia Tech.

The next morning Edwards talked Walters through an intensive 30 bottle sampling protocol. When the bottles were returned to Virginia Tech and analyzed, Edwards and his senior research

scientist Dr. Jeff Parks were stunned by the results. The average lead in was 2,429 ppb lead, the high was 13,200 ppb, and even after 25 minutes flushing the water never dropped below 200 ppb. After Walters told Del Toral about the high lead results, he drove back to Flint, just in time to observe the City replacing the service line to Walters' home. He personally collected a sample of the pipe and verified it to be pure lead.

In a follow-up memo dated June 24, 2015, which was sent to both Walters and Edwards, Del Toral outlined numerous concerns about the situation regarding the serious lead corrosion problem in Flint. *He included a clear recommendation that the USEPA investigate whether the City of Flint was in compliance with federal laws for lead corrosion control.*

Phase 4. MDEQ "Handles" the LCR Report, ACLU-Michigan, Virginia Tech and Miguel Del Toral (July to August 2015)

> **"Revising" the Original LCR Report**. In spite of all the problems documented with lead in Flint water from February to June 2015, Flint and MDEQ took a lackadaisical approach to the federally required LCR sampling program. Specifically, just 5 days before the June 30th deadline to collect the 100 samples that MDEQ required, the City had only collected 39 samples.

Adam Rosenthal (MDEQ) e-mailed Mike Glasgow at the City of Flint:

"We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results, Flint's 90th percentile is over the AL for lead."

In the next five days the City collected 30 samples, all of which were below the action level, and did not reach the 100 sample target. If all 71 submitted samples had been considered valid, the City would have exceeded the 15 ppb action level. *Federal law would then require that Flint residents be provided information*

about how to protect themselves and their children from lead in water. MDEQ's failure to install corrosion control would have been flagged as an obvious mistake. But none of that happened.

Instead, the MDEQ "revised" the City's original LCR report, invalidating two high lead results, so that the 90th ile was under the 15 ppb action level. The validity of samples showing low lead in the City's sampling was never questioned. This is a problem, because the City has now admitted that they do not know which homes had lead pipe, even though it is stated in writing in the report that all sampled homes had lead pipe. By law, at least 50 percent of the homes sampled must be verified to have lead pipe, and the remainder of homes sampled must have been built before 1986 and known to have lead solder. There is no basis for believing that this requirement was met in either the 2014 or 2015 LCR sampling events conducted by the City. Hence, the City of Flint has not had a valid LCR sampling event since the switch to Flint River water.

MDEQ then lowered the minimum number of required samples from 100 to 60, making it look like the City of Flint had met the target. MDEQ also did not question the City's open acknowledgement that homes from 2014 had not been re-sampled, or that high risk (Tier 1) sites were not used. The original report, due July 10th, was also late by several weeks. All of these violations of federal law were glossed over, to make it appear that the City had passed its lead testing with flying colors. Just like that, according to MDEQ at least, the City of Flint had no LCR violations at all.

> ACLU-Michigan FOIA. The timing by which the "revised" LCR report was created, is also of interest. On July 22, 2015, the ACLU-Michigan submitted a FOIA to MDEQ, requesting the City of Flint's LCR report supposedly due on July 10, 2015. The City's original LCR report with all the obvious problems is dated July 28, 2015. MDEQ never provided the ACLU-Michigan with the original LCR report. Instead, they created the scrubbed revised report, on August 20, 2015, and sent that report to ALCU-Michigan (from the

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[Download \(PDF, 15KB\)](#)

To: Levin, Ronnie[rblevin@hsph.harvard.edu]; edwardsm@vt.edu[edwardsm@vt.edu]; Briskin, Jeanne[Briskin.Jeanne@epa.gov]; Brown, Mary Jean (CDC/ONDIEH/NCEH)[mjb5@cdc.gov]
Cc: Schwartz, Joel[jschwartz@hsph.harvard.edu]
From: Schock, Michael
Sent: Wed 9/30/2015 10:40:22 PM
Subject: RE: High Lead Levels In Michigan Kids After City Switches Water Source

Yep, lots of repeat. Lead levels are probably a lot worse than the sampling shows. We're trying to help and offer expertise, but it has not been welcomed by the creators of the problem. Even more of an avoidable problem than DC was, IMHO...

New twist on pre-flush sampling: Lots of houses with utility-side lead pipes but plastic interior plumbing. Copper was long gone from housing crash.

From: Levin, Ronnie [mailto:rblevin@hsph.harvard.edu]
Sent: Wednesday, September 30, 2015 4:32 PM
To: Schock, Michael; edwardsm@vt.edu; Briskin, Jeanne; Brown, Mary Jean (CDC/ONDIEH/NCEH)
Cc: Schwartz, Joel
Subject: High Lead Levels In Michigan Kids After City Switches Water Source

This story line sounds familiar.

September 29, 2015 6:01 PM ET
High Lead Levels In Michigan Kids After City Switches Water Source

Sarah Hulett

Residents of Flint, Mich. (shown here in January), have been protesting the quality and cost of the city's tap water for more than a year.

Doctors are finding elevated levels of lead in the children in Flint, Mich., and local tap water is the likely cause.

That's the latest alarming news to come out of the city, which switched its water source about a year and a half ago.

A pediatrician with Hurley Medical Center analyzed lead levels of hundreds of children. She compared blood tests before and after April 2014. That's when Flint, unable to come to an agreement on a short-term contract with Detroit, quit buying water from its system and signed on with a new system that will draw water from Lake Huron.

But that system won't be online until next year. So in the interim, with assurances from the state that it would be safe, the city decided to pump water from the Flint River.

Dr. Mona Hanna-Attisha's research found that the percentage of Flint children 5 years and younger with elevated lead levels nearly doubled after the switch, from 2.1 percent to 4 percent.

"My research shows that lead levels have gone up," Hanna-Attisha says. "I cannot say it's from the water. But that's, you know, the thing that has happened."

A Cascade Of Problems

The news did not surprise Lee Anne Walters, who suspected the water had something to do with health problems in her 4-year-old son, Gavin.

"I kept talking to the doctors, trying to figure out why he wasn't growing," she says. "He was 27 pounds at 4 years old. His hair was thinning, breaking out in rashes."

Complaints about foul-smelling, discolored water began soon after the city started drawing water from the Flint River. In the summer of 2014, the city issued a notice for residents to boil their water because of E. coli contamination.

And I got a frantic phone call from the water department telling me to please make sure my kids didn't drink the water, don't mix their juice with it, because they had never seen a number that high for lead.

Lee Anne Walters, whose 4-year-old son's lead level more than tripled after Flint switched its water source

Then the city was found to be in violation of the Safe Drinking Water Act because of high levels of a disinfectant byproduct called total trihalomethanes — an unintended consequence from all the chlorine the city had to use to kill the E. coli.

Walters says her whole family broke out in rashes, and they stopped drinking the water in December.

Then, in February of this year, the city tested her water for lead.

"And I got a frantic phone call from the water department telling me to please make sure my kids didn't drink the water, don't mix their juice with it, because they had never seen

a number that high for lead," she says.

After that, Walters decided to take Gavin in to be tested for lead.

He'd been tested before the city switched its water source. At that time, he had a level of 2 micrograms of lead per deciliter of blood. After the switch, his level was 6.5.

The Centers for Disease Control and Prevention says a level of 5 is considered "much higher" than that found in most children. It also says there is no safe level of lead exposure — and the effects, like lower IQ, are irreversible.

A Failure Of Government?

The day after Hanna-Attisha released her findings, the city put out a lead advisory, urging people to flush their pipes, install inexpensive filters, and use cold water for mixing baby formula.

"As a father, I want every family and household in the city of Flint to be safe and secure," Mayor Dayne Walling said at a press conference to announce the advisory.

NPR Ed

If Walls Could Talk: What Lead Is Doing To Our Students

Over the summer, researchers from Virginia Tech found that Flint River water is highly corrosive. That means when it comes into contact with lead from service lines, household pipes or solder, it eats away at the lead and sends it right to people's faucets.

City officials and state regulators say they're now putting together a corrosion control plan to reduce lead exposure.

"Flint is the only city in America that I'm aware of that does not have a corrosion control plan," said Virginia Tech's Marc Edwards, who led the research.

Edwards also uncovered lead contamination in Washington, D.C. He says Flint's lead levels are not as high, and the exposure period is not as long as it was in that city. But he has some harsh criticism of city and state officials for how they've handled the Flint situation.

"It was clearly a failure of government agencies to do their job to protect the public," says Edwards, citing the absence of a corrosion control plan from the outset.

A draft report from the EPA that was obtained by the ACLU of Michigan also takes the city and state to task.

"Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to control lead and copper levels in the drinking water," the report read, adding that the treatment was discontinued after the switch to Flint River water.

"In accordance with the Lead and Copper Rule (LCR), all large systems ... are required to install and maintain corrosion control treatment for lead and copper. In the absence of any corrosion control treatment, lead levels in drinking water can be expected to increase," the report continued.

A Solution May Be Near

But officials with the Michigan Department of Environmental Quality dispute the findings of the draft report. MDEQ spokesman Brad Wurfel says the report was the work of a "rogue employee" and promised the final report — not yet released — would tell a much different story.

"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, Wurfel says, adding that's the only way to know how much phosphate to add to the water.

An announcement about the corrosion control plan is expected soon. Meanwhile, city officials are showing increasing interest in returning to Detroit's water system — something that even a few days ago they dismissed as economically unfeasible for the cash-strapped city.

Whatever the solution, residents like Walters say they hope the city can reach one soon.

"I want them to take responsibility," Walters says. "I want them to quit poisoning their citizens."

To: Frey, Bert[frey.bertram@epa.gov]
From: Hedman, Susan
Sent: Thur 10/1/2015 12:07:23 AM
Subject: RE: FYI: New Commentary posted at <http://flintwaterstudy.org/>

Thanks.

From: Frey, Bert
Sent: Wednesday, September 30, 2015 2:52 PM
To: Hedman, Susan; Kaplan, Robert; Hyde, Tinka
Subject: FW: FYI: New Commentary posted at <http://flintwaterstudy.org/>

FYI

From: Glowacki, Joanna
Sent: Wednesday, September 30, 2015 2:50 PM
To: Frey, Bert; Lupton, Jane; Lee, Sandra
Subject: FW: FYI: New Commentary posted at <http://flintwaterstudy.org/>

FYI

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

Chicago, Illinois 60604

312-353-3757

312-385-5464 fax

From: Shoven, Heather

Sent: Wednesday, September 30, 2015 2:45 PM

To: Poy, Thomas; Damato, Nicholas; Bair, Rita; Deltoral, Miguel; Porter, Andrea; Crooks, Jennifer; Glowacki, Joanna; Kempic, Jeffrey; Darman, Leslie; King, Carol; Moriarty, Edward; Lopez-Carbo, Maria; Viveiros, Edward; Banks, Victoria

Subject: FYI: New Commentary posted at <http://flintwaterstudy.org/>

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I have pasted the commentary below.

COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis

September 30, 2015 September 30, 2015 Siddhartha Roy Articles

Primary Author: Dr. Marc Edwards

Acknowledgements: Curt Guyette, LeeAnne Walters, Melissa Mays, Siddhartha Roy

As results of our collaborative research with Flint residents exposed widespread problems with elevated levels of lead in Flint's water, the Michigan Department of Environmental Quality (MDEQ) repeatedly attempted to discredit our findings and downplay the public health threat. For example, MDEQ's Communications Director Brad Wurfel wrote to The Flint Journal's Ronald Fonger:

"...the state DEQ is just as perplexed by Edwards' results as he seems to be by the City's test results. When I said we were unsure how the Virginia Tech team got its results, that's not the same as being surprised that they got them. ...this group

specializes in looking for high lead problems. They pull that rabbit out of that hat everywhere they go. Nobody should be surprised when the rabbit comes out of the hat, even if they can't figure out how it is done.....while the state appreciates academic participation in this discussion, offering broad, dire public health advice based on some quick testing could be seen as fanning political flames irresponsibly. Residents of Flint concerned about the health of their community don't need more of that."

Now that Dr. Mona Hanna-Attisha and Hurley Medical Center researchers have revealed that the rising levels of lead in Flint water have been associated with increased blood lead of Flint's children, our early health advice has been vindicated by most accounts. But MDEQ still dismisses the water controversy as "near-hysteria," and characterizes the Hurley study conclusions as **"unfortunate"** if not quite **"irresponsible."**

Given MDEQ's insistence that there is absolutely nothing wrong with Flint water, we have created a timeline that illustrates how MDEQ's mistakes and deception created the Flint Water Crisis in the first place. Our analysis relies on e-mails and documents obtained through Freedom of Information Act (FOIA) requests by the American Civil Liberties Union-Michigan (ACLU of Michigan) and FlintWaterStudy.org.

All FOIA documents are provided at the end of this article for review.

Phase 1. MDEQ Fails to Require Corrosion Control for Flint River Water (April 2014)

Effective July 1998, the federal Lead and Copper Rule (LCR) has required that all large public water systems maintain a program to control levels of lead in drinking water from corrosion. Moreover, the law also requires the City of Flint to have a state approved plan, with enforceable regulatory limits for "Water Quality Parameters" including pH, alkalinity and/or corrosion inhibitor dose measured in the water distribution system.

MDEQ never required Flint to have a corrosion control program, nor did it set water quality parameters for the new Flint River source water. While MDEQ asserts that they are acting proactively to get a corrosion control program in Flint, there is no provision in the LCR that allows for corrosion control to ever be interrupted.

As a direct result of this mistake, Flint residents have been completely unprotected from elevated lead in water from the moment the switch to Flint River water was made. This has created a conflict of interest for MDEQ ever since. Specifically, MDEQ's failure to require a corrosion control program is what created the Flint water crisis in the first place—they now have a vested interest in covering up the problem.

Phase 2. MDEQ misinforms the USEPA about Flint's Corrosion Control (February-March 2015)

Even if we assume MDEQ was confused about its obligations under the LCR, when problems with high lead started to crop up in February 2015, they should have quickly acted to correct the mistake. Samples with high lead were reported at the University of Michigan-Flint Campus, and on February 26, 2015 Mike Glasgow (City of Flint) did excellent detective work discovering high lead (over 100 ppb) in water samples from Flint resident Lee-Anne Walters' home.

Ms. Walters immediately forwarded her results to representatives of USEPA Region 5, who in turn immediately forwarded the results to Stephen Busch and Mike Prysby (MDEQ) with the subject line **"HIGH LEAD: FLINT Water testing Results"** The EPA e-mail correctly informed MDEQ that Ms. Walters' high lead was likely due to *"... the different chemistry water...leaching out contaminants from the insides of...the pipes."* But MDEQ denied to EPA that that Flint had a lead in water problem.

At that point, EPA Region 5 lead-in-water expert Miguel Del Toral asked MDEQ a question through another EPA employee:

"Miguel was wondering if Flint is feeding Phosphates. Flint must

have Optimal Corrosion Control Treatment-is it Phosphates?”

On February 27th, 2015, MDEQ’s Stephen Busch unequivocally and falsely responded to EPA that:

“The City of Flint...Has an Optimized Corrosion Control Program <and> Conducts quarterly Water Quality Parameter monitoring at 25 sites and has not had any unusual results.”

Reassured by MDEQ’s false statement, Del Toral ended USEPA’s February conversation with MDEQ by stating:

“If I remember correctly, Detroit is feeding PO4 for the LCR, but since Flint is no longer part of that interconnection, I was wondering what their <Optimal Corrosion Control> was. They are required to have <Optimal Corrosion Control> in place which is why I was asking what they were using.”

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MDEQ’s response, delivered in a voicemail to Del Toral on March 19, 2015, stated that ***MDEQ had investigated and found Ms. Walters’ high lead was due to lead sources in her plumbing.*** On March 27, 2015, Walters’ son, who had been having health problems, was tested for lead in his blood. The blood lead results came back high— well over the 5 ug/dL CDC threshold of concern.

Phase 3. Walters and Del Toral Investigate the Veracity of MDEQ Statements (April to June 2015)

With good reason, Lee-Anne Walters did not accept the MDEQ’s explanation to Del Toral for the high lead in her water. The internal plumbing had been stolen from the house before it was purchased, and they had installed new (lead free) plastic plumbing before moving

in.

Walters also checked up on the MDEQ statement that Flint had “an Optimized Corrosion Control Program.” She called the City of Flint, and city officials correctly informed her that there was no program at all.

Walters then passed this alarming information along to EPA’s Del Toral, who on April 23rd e-mailed MDEQ, and again asked what corrosion control program Flint was using. It was only then that MDEQ finally acknowledged that there was NO program. Concerned due to the very high occurrence of lead service lines (LSLs) in Flint, on April 27th Del Toral wrote an EPA Region 5 internal e-mail stating:

“Flint has not been operating any corrosion control treatment, which is very concerning given the likelihood of LSLs in the City.”

That night Del Toral also stopped at Walters’ house on a trip north, and personally inspected her plumbing first hand. He confirmed it was plastic and lead-free. Del Toral also dropped off sample bottles at the Walters’ home, and told her that if she wanted an analysis to contact Professor Marc Edwards (the author of this article and Principal Investigator of FlintWaterStudy.org) at Virginia Tech.

The next morning Edwards talked Walters through an intensive 30 bottle sampling protocol. When the bottles were returned to Virginia Tech and analyzed, Edwards and his senior research scientist Dr. Jeff Parks were stunned by the results. The average lead in was 2,429 ppb lead, the high was 13,200 ppb, and even after 25 minutes flushing the water never dropped below 200 ppb. After Walters told Del Toral about the high lead results, he drove back to Flint, just in time to observe the City replacing the service line to Walters’ home. He personally collected a sample of the pipe and verified it to be pure lead.

In a follow-up memo dated June 24, 2015, which was sent to both Walters and Edwards, Del Toral outlined numerous concerns about

the situation regarding the serious lead corrosion problem in Flint. *He included a clear recommendation that the USEPA investigate whether the City of Flint was in compliance with federal laws for lead corrosion control.*

Phase 4. MDEQ “Handles” the LCR Report, ACLU-Michigan, Virginia Tech and Miguel Del Toral (July to August 2015)

> **“Revising” the Original LCR Report.** In spite of all the problems documented with lead in Flint water from February to June 2015, Flint and MDEQ took a lackadaisical approach to the federally required LCR sampling program. Specifically, just 5 days before the June 30th deadline to collect the 100 samples that MDEQ required, the City had only collected 39 samples.

Adam Rosenthal (MDEQ) e-mailed Mike Glasgow at the City of Flint:

“We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results, Flint’s 90th percentile is over the AL for lead.”

In the next five days the City collected 30 samples, all of which were below the action level, and did not reach the 100 sample target. If all 71 submitted samples had been considered valid, the City would have exceeded the 15 ppb action level. *Federal law would then require that Flint residents be provided information about how to protect themselves and their children from lead in water. MDEQ’s failure to install corrosion control would have been flagged as an obvious mistake. But none of that happened.*

Instead, the MDEQ “revised” the City’s original LCR report, invalidating two high lead results, so that the 90th percentile was under the 15 ppb action level. The validity of samples showing low lead in the City’s sampling was never questioned. This is a problem, because the City has now admitted that they do not know which homes had lead pipe, even though it is stated in writing in the report that all sampled homes had lead pipe. By law, at least 50 percent of the homes sampled must

be verified to have lead pipe, and the remainder of homes sampled must have been built before 1986 and known to have lead solder. There is no basis for believing that this requirement was met in either the 2014 or 2015 LCR sampling events conducted by the City. Hence, the City of Flint has not had a valid LCR sampling event since the switch to Flint River water.

MDEQ then lowered the minimum number of required samples from 100 to 60, making it look like the City of Flint had met the target. MDEQ also did not question the City's open acknowledgement that homes from 2014 had not been re-sampled, or that high risk (Tier 1) sites were not used. The original report, due July 10th, was also late by several weeks. All of these violations of federal law were glossed over, to make it appear that the City had passed its lead testing with flying colors. Just like that, according to MDEQ at least, the City of Flint had no LCR violations at all.

> **ACLU-Michigan FOIA.** The timing by which the "revised" LCR report was created, is also of interest. On July 22, 2015, the ACLU-Michigan submitted a FOIA to MDEQ, requesting the City of Flint's LCR report supposedly due on July 10, 2015. The City's original LCR report with all the obvious problems is dated July 28, 2015. MDEQ never provided the ACLU-Michigan with the original LCR report. Instead, they created the scrubbed revised report, on August 20, 2015, and sent that report to ALCU-Michigan (from the City of Flint) the next day. In the comments section of the report, Flint openly states ***"Revised report after conference call with DEQ staff. Two samples were removed from list for not meeting sample criteria, and due to population the number of samples was reduced to 60."***

> **MDEQ to FlintWaterStudy.org FOIA: What conference call?** On September 9, 2015, Virginia Tech submitted a FOIA to MDEQ explicitly requesting records and minutes of the conference call between DEQ staff and Flint cited in the revised LCR report. This FOIA request has been denied by MDEQ, because ***"Your request does not include the date/time of the conference call and who from the Department of Environmental Quality participated on the***

conference call.” FlintWaterStudy.org immediately appealed the withholding of documents related to the conference call to the State of Michigan. On September 28th, our appeal was denied. We may commence a civil action if we do not agree with the decision.

> **Handling Miguel Del Toral.** MDEQ obviously had a major problem on its hands with EPA’s lead-in-water expert Miguel Del Toral. On August 4th 2015, Lee-Anne Walters and Melissa Mays met with MDEQ officials to discuss Flint’s lead in water problems. The MDEQ officials participating in the meeting were identified by Mays and Walters, as Liane Shekter-Smith (Chief of the Office of Drinking Water and Municipal Assistance), Stephen Busch and Brad Wurfel.

According to Walters and Mays, Shekter-Smith bragged that **“Mr. Del Toral has been handled,”** and that Flint residents would not be hearing from him again. Moreover, MDEQ asserted that Mr. Del Toral’s interim memo detailing the many problems with Flint’s (non-existent) corrosion control program **“would never be finalized.”** Just yesterday, NPR released a slightly different, but enlightening version of Wurfel’s take on Del Toral and the memo:

MDEQ spokesman Brad Wurfel says the report was the work of a “rogue employee,” and promised the final report — not yet released — would tell a much different story.

Mays and Walters vividly recall Wurfel, smirking or laughing, whenever they expressed concern about elevated lead in Flint’s water. Looking back on the exchange yesterday, Mays stated **“It is shocking how their refusal to admit they made a mistake, trumped the dangers their actions pose to Flint’s children.”**

Angered, Lee-Anne Walters then called Edwards, and informed him that Del Toral would no longer be working on Flint water issues, and the two discussed the clear implication that EPA bureaucrats had intervened to prevent Del Toral from further exposing MDEQ’s numerous blunders and the health threat to Flint residents. She further stated that **“It is too late for my son, but I will not stand by and let this happen to another other innocent child in Flint.”**

Clearly, the MDEQ, City of Flint and even the USEPA (with the obvious exception of Del Toral) have proved themselves unworthy of the public trust. Flint residents have been left to fend for themselves, when it comes to dealing with the dangers of high lead in their water.

FlintWaterStudy was launched an hour after the phone call from Ms. Walters, to help the citizens of Flint deal with the lead-in-water crisis that MDEQ created, and to correct any false statements by uncaring agencies that have left Flint's children in harm's way.

FOIA Documents:

Emails between MDEQ, USEPA, and Ms. LeeAnne Walters:

[Download \(PDF, 169KB\)](#)

Original LCR Report from City of Flint to MDEQ:

[Download \(PDF, 94KB\)](#)

Revised LCR Report from City of Flint to MDEQ:

[Download \(PDF, 357KB\)](#)

FlintWaterStudy.org's FOIA Appeal Denied:

[Download \(PDF, 15KB\)](#)

To: Schock, Michael[Schock.Michael@epa.gov]
Cc: Levin, Ronnie[rblevin@hsph.harvard.edu]; edwardsm@vt.edu[edwardsm@vt.edu]; Briskin, Jeanne[Briskin.Jeanne@epa.gov]; Brown, Mary Jean (CDC/ONDIEH/NCEH)[mjb5@cdc.gov]; Schwartz, Joel[jschwartz@hsph.harvard.edu]
From: Personal Email / Ex. 6
Sent: Thur 10/1/2015 12:10:09 AM
Subject: Re: High Lead Levels In Michigan Kids After City Switches Water Source

Uggh

On Wed, Sep 30, 2015 at 6:40 PM, Schock, Michael <Schock.Michael@epa.gov> wrote:

Yep, lots of repeat. Lead levels are probably a lot worse than the sampling shows. We're trying to help and offer expertise, but it has not been welcomed by the creators of the problem. Even more of an avoidable problem than DC was, IMHO...

New twist on pre-flush sampling: Lots of houses with utility-side lead pipes but plastic interior plumbing. Copper was long gone from housing crash.

From: Levin, Ronnie [mailto:rblevin@hsph.harvard.edu]
Sent: Wednesday, September 30, 2015 4:32 PM
To: Schock, Michael; edwardsm@vt.edu; Briskin, Jeanne; Brown, Mary Jean (CDC/ONDIEH/NCEH)
Cc: Schwartz, Joel
Subject: High Lead Levels In Michigan Kids After City Switches Water Source

This story line sounds familiar.

September 29, 2015 6:01 PM ET
High Lead Levels In Michigan Kids After City Switches Water Source

Sarah Hulett

Residents of Flint, Mich. (shown here in January), have been protesting the quality and cost of the city's tap water for more than a year.

Doctors are finding elevated levels of lead in the children in Flint, Mich., and local tap water is the likely cause.

That's the latest alarming news to come out of the city, which switched its water source about a year and a half ago.

A pediatrician with Hurley Medical Center analyzed lead levels of hundreds of children. She compared blood tests before and after April 2014. That's when Flint, unable to come to an agreement on a short-term contract with Detroit, quit buying water from its system and signed on with a new system that will draw water from Lake Huron.

But that system won't be online until next year. So in the interim, with assurances from the state that it would be safe, the city decided to pump water from the Flint River.

Dr. Mona Hanna-Attisha's research found that the percentage of Flint children 5 years and younger with elevated lead levels nearly doubled after the switch, from 2.1 percent to 4 percent.

"My research shows that lead levels have gone up," Hanna-Attisha says. "I cannot say it's from the water. But that's, you know, the thing that has happened."

A Cascade Of Problems

The news did not surprise Lee Anne Walters, who suspected the water had something to do with health problems in her 4-year-old son, Gavin.

"I kept talking to the doctors, trying to figure out why he wasn't growing," she says. "He was 27 pounds at 4 years old. His hair was thinning, breaking out in rashes."

Complaints about foul-smelling, discolored water began soon after the city started drawing water from the Flint River. In the summer of 2014, the city issued a notice for residents to boil their water because of E. coli contamination.

And I got a frantic phone call from the water department telling me to please make sure my kids didn't drink the water, don't mix their juice with it, because they had never seen a number that high for lead.

Lee Anne Walters, whose 4-year-old son's lead level more than tripled after Flint switched its water source

Then the city was found to be in violation of the Safe Drinking Water Act because of high levels of a disinfectant byproduct called total trihalomethanes — an unintended consequence from all the chlorine the city had to use to kill the E. coli.

Walters says her whole family broke out in rashes, and they stopped drinking the

water in December.

Then, in February of this year, the city tested her water for lead.

"And I got a frantic phone call from the water department telling me to please make sure my kids didn't drink the water, don't mix their juice with it, because they had never seen a number that high for lead," she says.

After that, Walters decided to take Gavin in to be tested for lead.

He'd been tested before the city switched its water source. At that time, he had a level of 2 micrograms of lead per deciliter of blood. After the switch, his level was 6.5.

The Centers for Disease Control and Prevention says a level of 5 is considered "much higher" than that found in most children. It also says there is no safe level of lead exposure — and the effects, like lower IQ, are irreversible.

A Failure Of Government?

The day after Hanna-Attisha released her findings, the city put out a lead advisory, urging people to flush their pipes, install inexpensive filters, and use cold water for mixing baby formula.

"As a father, I want every family and household in the city of Flint to be safe and secure," Mayor Dayne Walling said at a press conference to announce the advisory.

NPR Ed

If Walls Could Talk: What Lead Is Doing To Our Students

Over the summer, researchers from Virginia Tech found that Flint River water is highly corrosive. That means when it comes into contact with lead from service lines, household pipes or solder, it eats away at the lead and sends it right to people's faucets.

City officials and state regulators say they're now putting together a corrosion control plan to reduce lead exposure.

"Flint is the only city in America that I'm aware of that does not have a corrosion control plan," said Virginia Tech's Marc Edwards, who led the research.

Edwards also uncovered lead contamination in Washington, D.C. He says Flint's

lead levels are not as high, and the exposure period is not as long as it was in that city. But he has some harsh criticism of city and state officials for how they've handled the Flint situation.

"It was clearly a failure of government agencies to do their job to protect the public," says Edwards, citing the absence of a corrosion control plan from the outset.

A draft report from the EPA that was obtained by the ACLU of Michigan also takes the city and state to task.

"Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to control lead and copper levels in the drinking water," the report read, adding that the treatment was discontinued after the switch to Flint River water.

"In accordance with the Lead and Copper Rule (LCR), all large systems ... are required to install and maintain corrosion control treatment for lead and copper. In the absence of any corrosion control treatment, lead levels in drinking water can be expected to increase," the report continued.

A Solution May Be Near

But officials with the Michigan Department of Environmental Quality dispute the findings of the draft report. MDEQ spokesman Brad Wurfel says the report was the work of a "rogue employee" and promised the final report — not yet released — would tell a much different story.

"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, Wurfel says, adding that's the only way to know how much phosphate to add to the water.

An announcement about the corrosion control plan is expected soon. Meanwhile, city officials are showing increasing interest in returning to Detroit's water system — something that even a few days ago they dismissed as economically unfeasible for the cash-strapped city.

Whatever the solution, residents like Walters say they hope the city can reach one soon.

"I want them to take responsibility," Walters says. "I want them to quit poisoning their citizens."

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The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable causes, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

Virginia Declaration of Rights; " That general warrants, whereby any officer or messenger may be commanded to search suspected places without evidence of a fact committed, or to seize any person or persons not named, or whose offense is not particularly described and supported by evidence, are grievous and oppressive and ought not to be granted."

To: Neugeboren, Steven[Neugeboren.Steven@epa.gov]
From: Frey, Bert
Sent: Thur 10/1/2015 12:40:49 PM
Subject: Fwd: FYI: New Commentary posted at <http://flintwaterstudy.org/>

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Begin forwarded message:

From: "Glowacki, Joanna" <glowacki.joanna@epa.gov>
Date: September 30, 2015 at 2:50:02 PM CDT
To: "Frey, Bert" <frey.bertram@epa.gov>, "Lupton, Jane" <lupton.jane@epa.gov>, "Lee, Sandra" <lee.sandra@epa.gov>
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Primary Author: Dr. Marc Edwards

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“Flint has not been operating any corrosion control treatment, which is very concerning given the likelihood of LSLs in the City.”

That night Del Toral also stopped at Walters’ house on a trip north, and personally inspected her plumbing first hand. He confirmed it was plastic and lead-free. Del Toral also dropped off sample bottles at the Walters’ home, and told her that if she wanted an analysis to contact Professor Marc Edwards (the author of this article and Principal Investigator of FlintWaterStudy.org) at Virginia Tech.

The next morning Edwards talked Walters through an intensive 30 bottle sampling protocol. When the bottles were returned to Virginia Tech and analyzed, Edwards and his senior research scientist Dr. Jeff Parks were stunned by the results. The average lead in was 2,429 ppb lead, the high was 13,200 ppb, and even after 25 minutes flushing the water never dropped below 200 ppb. After Walters told Del Toral about the high lead results, he drove back to Flint, just in time to observe the City replacing the service line to Walters’ home. He personally collected a sample of the pipe and verified it to be pure lead.

In a follow-up memo dated June 24, 2015, which was sent to both Walters and Edwards, Del Toral outlined numerous concerns

about the situation regarding the serious lead corrosion problem in Flint. *He included a clear recommendation that the USEPA investigate whether the City of Flint was in compliance with federal laws for lead corrosion control.*

Phase 4. MDEQ “Handles” the LCR Report, ACLU-Michigan, Virginia Tech and Miguel Del Toral (July to August 2015)

> **“Revising” the Original LCR Report.** In spite of all the problems documented with lead in Flint water from February to June 2015, Flint and MDEQ took a lackadaisical approach to the federally required LCR sampling program. Specifically, just 5 days before the June 30th deadline to collect the 100 samples that MDEQ required, the City had only collected 39 samples.

Adam Rosenthal (MDEQ) e-mailed Mike Glasgow at the City of Flint:

“We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results, Flint’s 90th percentile is over the AL for lead.”

In the next five days the City collected 30 samples, all of which were below the action level, and did not reach the 100 sample target. If all 71 submitted samples had been considered valid, the City would have exceeded the 15 ppb action level. *Federal law would then require that Flint residents be provided information about how to protect themselves and their children from lead in water. MDEQ’s failure to install corrosion control would have been flagged as an obvious mistake. But none of that happened.*

Instead, the MDEQ “revised” the City’s original LCR report, invalidating two high lead results, so that the 90th percentile was under the 15 ppb action level. The validity of samples showing low lead in the City’s sampling was never questioned. This is a problem, because the City has now admitted that they do not know which homes had lead pipe, even though it is stated in writing in the

report that all sampled homes had lead pipe. By law, at least 50 percent of the homes sampled must be verified to have lead pipe, and the remainder of homes sampled must have been built before 1986 and known to have lead solder. There is no basis for believing that this requirement was met in either the 2014 or 2015 LCR sampling events conducted by the City. Hence, the City of Flint has not had a valid LCR sampling event since the switch to Flint River water.

MDEQ then lowered the minimum number of required samples from 100 to 60, making it look like the City of Flint had met the target. MDEQ also did not question the City's open acknowledgement that homes from 2014 had not been re-sampled, or that high risk (Tier 1) sites were not used. The original report, due July 10th, was also late by several weeks. All of these violations of federal law were glossed over, to make it appear that the City had passed its lead testing with flying colors. Just like that, according to MDEQ at least, the City of Flint had no LCR violations at all.

> **ACLU-Michigan FOIA.** The timing by which the "revised" LCR report was created, is also of interest. On July 22, 2015, the ACLU-Michigan submitted a FOIA to MDEQ, requesting the City of Flint's LCR report supposedly due on July 10, 2015. The City's original LCR report with all the obvious problems is dated July 28, 2015. MDEQ never provided the ACLU-Michigan with the original LCR report. Instead, they created the scrubbed revised report, on August 20, 2015, and sent that report to ALCU-Michigan (from the City of Flint) the next day. In the comments section of the report, Flint openly states *"Revised report after conference call with DEQ staff. Two samples were removed from list for not meeting sample criteria, and due to population the number of samples was reduced to 60."*

> **MDEQ to FlintWaterStudy.org FOIA: What conference call?** On September 9, 2015, Virginia Tech submitted a FOIA to MDEQ explicitly requesting records and minutes of the conference call between DEQ staff and Flint cited in the revised LCR report. This

FOIA request has been denied by MDEQ, because ***“Your request does not include the date/time of the conference call and who from the Department of Environmental Quality participated on the conference call.”*** FlintWaterStudy.org immediately appealed the withholding of documents related to the conference call to the State of Michigan. On September 28th, our appeal was denied. We may commence a civil action if we do not agree with the decision.

> Handling Miguel Del Toral. MDEQ obviously had a major problem on its hands with EPA’s lead-in-water expert Miguel Del Toral. On August 4th 2015, Lee-Anne Walters and Melissa Mays met with MDEQ officials to discuss Flint’s lead in water problems. The MDEQ officials participating in the meeting were identified by Mays and Walters, as Liane Shekter-Smith (Chief of the Office of Drinking Water and Municipal Assistance), Stephen Busch and Brad Wurfel.

According to Walters and Mays, Shekter-Smith bragged that ***“Mr. Del Toral has been handled,”*** and that Flint residents would not be hearing from him again. Moreover, MDEQ asserted that Mr. Del Toral’s interim memo detailing the many problems with Flint’s (non-existent) corrosion control program ***“would never be finalized.”*** Just yesterday, [NPR released a slightly different](#), but enlightening version of Wurfel’s take on Del Toral and the memo:

MDEQ spokesman Brad Wurfel says the report was the work of a “rogue employee,” and promised the final report — not yet released — would tell a much different story.

Mays and Walters vividly recall Wurfel, smirking or laughing, whenever they expressed concern about elevated lead in Flint’s water. Looking back on the exchange yesterday, Mays stated ***“It is shocking how their refusal to admit they made a mistake, trumped the dangers their actions pose to Flint’s children.”***

Angered, Lee-Anne Walters then called Edwards, and informed him that Del Toral would no longer be working on Flint water issues, and the two discussed the clear implication that EPA

bureaucrats had intervened to prevent Del Toral from further exposing MDEQ's numerous blunders and the health threat to Flint residents. She further stated that ***"It is too late for my son, but I will not stand by and let this happen to another other innocent child in Flint."***

Clearly, the MDEQ, City of Flint and even the USEPA (with the obvious exception of Del Toral) have proved themselves unworthy of the public trust. Flint residents have been left to fend for themselves, when it comes to dealing with the dangers of high lead in their water.

FlintWaterStudy was launched an hour after the phone call from Ms. Walters, to help the citizens of Flint deal with the lead-in-water crisis that MDEQ created, and to correct any false statements by uncaring agencies that have left Flint's children in harm's way.

FOIA Documents:

Emails between MDEQ, USEPA, and Ms. LeeAnne Walters:

[Download \(PDF, 169KB\)](#)

Original LCR Report from City of Flint to MDEQ:

[Download \(PDF, 94KB\)](#)

Revised LCR Report from City of Flint to MDEQ:

[Download \(PDF, 357KB\)](#)

FlintWaterStudy.org's FOIA Appeal Denied:

[Download \(PDF, 15KB\)](#)

To: Frey, Bert[frey.bertram@epa.gov]
Cc: Lee, Sandra[lee.sandra@epa.gov]; Lupton, Jane[lupton.jane@epa.gov]
From: Glowacki, Joanna
Sent: Thur 10/1/2015 1:37:22 PM
Subject: FW: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

.....
>>>>>>>
fyi

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

Chicago, Illinois 60604

312-353-3757

312-385-5464 fax

From: Shoven, Heather
Sent: Wednesday, September 30, 2015 7:31 AM
To: Damato, Nicholas; Bair, Rita; Poy, Thomas; Porter, Andrea; Crooks, Jennifer; King, Carol; Darman, Leslie; Glowacki, Joanna
Cc: Deltoral, Miguel
Subject: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

From: Marc Edwards [<mailto:edwardsm@vt.edu>]
Sent: Tuesday, September 29, 2015 10:34 PM
To: Schock, Michael; Lytle, Darren; Burneson, Eric; demarco.carol@epa.gov; Murphy, Thomas; Shoven, Heather; Deltoral, Miguel
Subject: WHAT ARE YOU GUYS DOING DOWN THERE?

Wurfel says to NPR you have to poison kids for a year before implementing corrosion control, and to determine the right orthophosphate dose?

Eric, is this going to be part of the new improved LCR? And is EPA going to hand Miguel's draft memo to Wurfel, to finalize and/or approve? Wurfel PROMISES THAT the final memo is going to tell a different story. And Miguel is now a ROGUE EPA employee?

EPA Office of Water and EPA Region 5 are a national embarrassment. You have a city in crisis, kids with elevated blood lead, and NO CORROSION CONTROL PLAN FOR 16 MONTHS, and yet you sit there and do absolutely nothing.

Marc

<http://www.npr.org/2015/09/29/444497051/high-lead-levels-in-michigan-kids-after-city-switches-water-source>

A [draft report from the EPA](#) that was obtained by the ACLU of Michigan also takes the city and state to task.

"Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to control lead and copper levels in the drinking water," the report read, adding that the treatment was discontinued after the switch to Flint River water.

"In accordance with the Lead and Copper Rule (LCR), all large systems ... are required to install and maintain corrosion control treatment for lead and copper. In the absence of any corrosion control treatment, lead levels in drinking water can be expected to increase," the report continued.

A Solution May Be Near

But officials with the Michigan Department of Environmental Quality dispute the findings of the draft report. MDEQ spokesman Brad Wurfel says the report was the work of a "rogue employee," and promised the final report — not yet released — would tell a much different story.

"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, Wurfel says, adding that's the only way to know how much phosphate to add to the water.

To: Neugeboren, Steven[Neugeboren.Steven@epa.gov]
From: Frey, Bert
Sent: Thur 10/1/2015 1:39:26 PM
Subject: FW: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

More on Flint.

From: Glowacki, Joanna
Sent: Thursday, October 01, 2015 8:37 AM
To: Frey, Bert
Cc: Lee, Sandra; Lupton, Jane
Subject: FW: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

fyi

Joanna S. Glowacki

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says, adding that's the only way to know how much phosphate to add to the water.

To: Susan Hedman[Hedman.Susan@epa.gov]; Robert Kaplan[Kaplan.Robert@epa.gov]; Hyde, Tinka[hyde.tinka@epa.gov]
From: Frey, Bert
Sent: Thur 10/1/2015 1:41:06 PM
Subject: FW: Follow-up from today's call -- Draft letters and next steps
DRAFT Letter to R5 States Regarding LCR OCCT Requirements v9-30-15.docx
DRAFT Letter to MDEQ Re Flint and LCR Implementation v9-30-15.doc

State of response to concerns regarding Flint's drinking water. See below.

From: Glowacki, Joanna
Sent: Thursday, October 01, 2015 8:36 AM
To: Frey, Bert
Cc: Lupton, Jane; Lee, Sandra
Subject: FW: Follow-up from today's call -- Draft letters and next steps

Attorney Client / Ex. 5

From: Shoven, Heather

Sent: Wednesday, September 30, 2015 12:13 PM

To: Moriarty, Edward

Cc: Deltoral, Miguel; Glowacki, Joanna; King, Carol; Darman, Leslie; Poy, Thomas; Crooks, Jennifer; Damato, Nicholas; Bair, Rita; Porter, Andrea; Lopez-Carbo, Maria

Subject: Follow-up from today's call -- Draft letters and next steps

Attorney Client / Ex. 5

Attorney Client / Ex. 5

Attorney Client / Ex. 5

To: Fritz, Matthew[Fritz.Matthew@epa.gov]
From: Meiburg, Stan
Sent: Thur 10/1/2015 2:12:11 PM
Subject: Fwd: Confidential and Privileged Communication
[DRAFT Letter to R5 States Regarding LCR OCCT Requirements v9-30-15.docx](#)
[ATT00001.htm](#)
[DRAFT Letter to MDEQ Re Flint and LCR Implementation v9-30-15.doc](#)
[ATT00002.htm](#)

FYI

Stan

Sent from my iPhone

Begin forwarded message:

From: "Hedman, Susan" <hedman.susan@epa.gov>
Date: October 1, 2015 at 10:09:04 AM EDT
To: "Garbow, Avi" <Garbow.Avi@epa.gov>
Cc: "Meiburg, Stan" <Meiburg.Stan@epa.gov>
Subject: Confidential and Privileged Communication

Avi -- This e-mail provides the names of some of the people in your shop who have been working with R5 on issues related to the issue Stan and I raised with you last night.

Sent from my iPhone

Begin forwarded message:

From: "Frey, Bert" <frey.bertram@epa.gov>
Date: October 1, 2015 at 8:41:06 AM CDT
To: "Hedman, Susan" <hedman.susan@epa.gov>, "Kaplan, Robert" <kaplan.robert@epa.gov>, "Hyde, Tinka" <hyde.tinka@epa.gov>
Subject: FW: Follow-up from today's call -- Draft letters and next steps

State of response to concerns regarding Flint's drinking water. See below.

From: Glowacki, Joanna
Sent: Thursday, October 01, 2015 8:36 AM
To: Frey, Bert

Cc: Lupton, Jane; Lee, Sandra

Subject: FW: Follow-up from today's call -- Draft letters and next steps

Bert,

As just discussed, here is the email Heather sent to OGWDW, memorializing our discussion with HQ yesterday.

Thanks,

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

Chicago, Illinois 60604

312-353-3757

312-385-5464 fax

From: Shoven, Heather

Sent: Wednesday, September 30, 2015 12:13 PM

To: Moriarty, Edward

Cc: Deltoral, Miguel; Glowacki, Joanna; King, Carol; Darman, Leslie; Poy, Thomas; Crooks, Jennifer; Damato, Nicholas; Bair, Rita; Porter, Andrea; Lopez-Carbo, Maria

Subject: Follow-up from today's call -- Draft letters and next steps

DRAFT: EPA INTERNAL DELIBERATIVE

Hi Ed,

Based on our discussion this morning (thanks to all for meeting), Region 5 would greatly appreciate OGWDW drafting, and OGC reviewing, a memo from Ron or Maria to Tom that covers the following rule requirements/intent:

Attorney Client / Ex. 5

Attorney Client / Ex. 5

We appreciate your time. Please let me know if you'd like me to set up a meeting when Maria is back in the office tomorrow.

Best wishes,

Heather

Heather A. Shoven | Enforcement Team Leader | U.S. Environmental Protection Agency, Region 5

Ground Water and Drinking Water Branch | 77 W. Jackson Blvd (WG-15J) | Chicago, IL 60604 | 312-886-0153

To: Daguillard, Robert[Daguillard.Robert@epa.gov]
From: Lindsey Smith
Sent: Thur 10/1/2015 2:36:55 PM
Subject: Press Inquiry about Drinking Water - corrosion control treatment

Good morning Robert,

I just left a message on your cell - apologies for the redundancy. I'm hoping you or someone at EPA can answer this question: Is corrosion control treatment required of large water systems, even when they introduce a new water source.

There are people within the EPA that have said it *is* required. But the state maintains that it is not required when a new source is introduced.

Here's a link to the piece I wrote the other day. <http://michiganradio.org/post/flint-mayor-state-approve-plan-fast-humanly-possible-help-keep-lead-out-water#stream/0>

Here's the key part I'm still hoping to answer: "The U.S. Environmental Protection Agency has not yet answered this question: Was Flint required to have some form of corrosion-control treatment the whole time?"

Here's how I read the regulations, in absence of EPA confirmation one way or the other (but I'm no lawyer so I'd love a clearer response from EPA):

"In approving updates to this federal regulation in 2000, the EPA noted that "water systems need to make treatment changes, on occasion, to react to changing circumstances."

In these cases, the rule does not "prevent a state from approving treatment changes," but it's not entirely clear if the state can approve having zero corrosion-control treatment.

One key section of the rule change reads:

"One commenter requested that EPA clarify in the rule language that (large water) systems are not required to have (corrosion-control treatment) physically present. EPA disagrees that this is appropriate."

"For large water systems, (the federal rule) does not eliminate the need to have any (corrosion-control treatment) in place, unless the water system can demonstrate to the satisfaction of the State that such treatment will have no effect on reducing the levels of lead and copper at the tap ... EPA expects few, if any, large water systems can make this demonstration without (corrosion-control treatment)."

Thanks for your quick response.

All the best,

--

Lindsey Smith

West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

To: Garbow, Avi[Garbow.Avi@epa.gov]; Hedman, Susan[hedman.susan@epa.gov]
Cc: Veney, Carla[Veney.Carla@epa.gov]; Denise Anderson
(anderson.denise@epa.gov)[anderson.denise@epa.gov]
Bcc: Fritz, Matthew[Fritz.Matthew@epa.gov]
From: Meiburg, Stan
Sent: Thur 10/1/2015 2:39:55 PM
Subject: RE: Confidential and Privileged Communication

I will move things around to accommodate what will work for you.

Stan

A. Stanley Meiburg, Ph.D.

Acting Deputy Administrator

U.S. Environmental Protection Agency

MC-1102A

1200 Pennsylvania Avenue, NW

Washington, DC 20460

From: Garbow, Avi
Sent: Thursday, October 01, 2015 10:39 AM
To: Hedman, Susan
Cc: Meiburg, Stan; Veney, Carla
Subject: RE: Confidential and Privileged Communication

Thanks. I suggest we aim for a short 15 minute call today to discuss, if works for you. I'll copy Carla Veney for my schedule, but will throw out some good times that work for me in case ok by you all: between 12:30-1:30 and 2:45-3:15 (all EST).

avi

Avi Garbow

General Counsel

U.S. Environmental Protection Agency

(202) 564-8040

From: Hedman, Susan
Sent: Thursday, October 01, 2015 10:09 AM
To: Garbow, Avi
Cc: Meiburg, Stan
Subject: Confidential and Privileged Communication

Avi -- This e-mail provides the names of some of the people in your shop who have been working with R5 on issues related to the issue Stan and I raised with you last night.

Sent from my iPhone

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Subject: FW: Follow-up from today's call -- Draft letters and next steps

State of response to concerns regarding Flint's drinking water. See below.

From: Glowacki, Joanna
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Cc: Lupton, Jane; Lee, Sandra
Subject: FW: Follow-up from today's call -- Draft letters and next steps

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with HQ yesterday.

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Associate Regional Counsel

U.S. Environmental Protection Agency

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From: Shoven, Heather

Sent: Wednesday, September 30, 2015 12:13 PM

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Cc: Deltoral, Miguel; Glowacki, Joanna; King, Carol; Darman, Leslie; Poy, Thomas; Crooks, Jennifer; Damato, Nicholas; Bair, Rita; Porter, Andrea; Lopez-Carbo, Maria

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DRAFT: EPA INTERNAL DELIBERATIVE

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Ground Water and Drinking Water Branch | 77 W. Jackson Blvd (WG-15J) | Chicago, IL 60604 | 312-886-0153

To: Lindsey Smith[lmsmi@umich.edu]
From: Daguillard, Robert
Sent: Thur 10/1/2015 2:40:35 PM
Subject: RE: Press Inquiry about Drinking Water - corrosion control treatment

Hullo Lindsey. A quick word to acknowledge receipt. Thanks, R.

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Thursday, October 01, 2015 10:37 AM
To: Daguillard, Robert
Subject: Press Inquiry about Drinking Water - corrosion control treatment

Good morning Robert,

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Thanks for your quick response.

All the best,

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Lindsey Smith
West Michigan Reporter
Michigan Radio
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michiganradio.org

To: Glowacki, Joanna[glowacki.joanna@epa.gov]
Cc: Lee, Sandra[lee.sandra@epa.gov]
From: Lupton, Jane
Sent: Thur 10/1/2015 2:42:46 PM
Subject: Re: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

Joanna, thanks for keeping us all updated on what is going on in Flint.

Jane

From: Glowacki, Joanna
Sent: Thursday, October 1, 2015 8:37 AM
To: Frey, Bert
Cc: Lee, Sandra; Lupton, Jane
Subject: FW: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

fyi

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To: Loop, Travis[Loop.Travis@epa.gov]; Han, Kaythi[Han.Kaythi@epa.gov]; Kelley, Jeff[kelley.jeff@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]
Cc: Conger, Nick[Conger.Nick@epa.gov]
From: Daguillard, Robert
Sent: Thur 10/1/2015 2:47:17 PM
Subject: OW/R5 ACTION: MICHIGAN PUBLIC RADIO; DDL 10/2; FLINT, MI WATER SYSTEM
CORROSION CONTROL Press Inquiry about Drinking Water - corrosion control treatment

Good morning,

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Thanks for your quick response.

All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

To: Cossa, Laura[cossa.laura@epa.gov]; Crooks, Jennifer[crooks.jennifer@epa.gov]
From: Marquardt, Steve
Sent: Thur 10/1/2015 2:52:30 PM
Subject: FW: Use of Local Assistance Set-Aside to fund in-home water filtration

Fyi

Deb was asked to raise the eligibility of filters to HQ

Steve Marquardt

USEPA Region 5

77 West Jackson Blvd

Chicago, Illinois 60604

(312)353-3214

From: Job, Charles
Sent: Thursday, October 01, 2015 9:03 AM
To: Baltazar, Debbie
Cc: Hogan, Joanne; Marquardt, Steve
Subject: RE: Use of Local Assistance Set-Aside to fund in-home water filtration

Debbie,

If the filters are replaced each month or so, they would not be capital items but would fall under O&M. O&M expenditures are explicitly not permitted to be funded under the DWSRF for public water systems under either the loan fund or set asides by statute.

Joanne – is there any other angle on this question? Am I missing something?

Chuck

Chuck Job

Chief, Infrastructure Branch

Drinking Water Protection Division

OGWDW/OW/EPA

1200 Pennsylvania Ave, NW

Washington DC 20460

202-564-3941

job.charles@epa.gov

From: Baltazar, Debbie
Sent: Wednesday, September 30, 2015 6:01 PM
To: Job, Charles
Cc: Hogan, Joanne; Marquardt, Steve
Subject: RE: Use of Local Assistance Set-Aside to fund in-home water filtration

Hi Chuck – Thanks for the response. However, what I'm asking about is the smaller, Brita-type filters that attach at the faucet. They might cost about \$50 or so. That type of filter would not be a capital item, would not have a service life of several years, and would not add value to a home. What about those?

Thanks.

Debbie

From: Job, Charles
Sent: Wednesday, September 30, 2015 4:50 PM
To: Baltazar, Debbie
Cc: Hogan, Joanne; Marquardt, Steve
Subject: Re: Use of Local Assistance Set-Aside to fund in-home water filtration

Debbie,

Thank you for your email regarding Flint, Michigan.

We have determined in the past that a water system can take a loan to fund home treatment units. Likewise, a water system can use a loan to replace lead service lines - even privately-owned. Set asides must not be used for what the loan fund was set up to do. The state could decide to forgive the principal for the home units or the lead service line replacement.

A home treatment unit is a capital item with a service life of several years and it adds value to the home.

If you would like to discuss this further, we can do so.

Chuck

202-564-3941

Sent from my iPhone

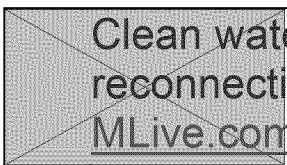
On Sep 28, 2015, at 5:43 PM, "Baltazar, Debbie" <baltazar.debbie@epa.gov> wrote:

Hi Joanne -

As you may be aware, there have been numerous discussions between EPA and the city of Flint, MI regarding their drinking water situation. One apparent result of their switch from Detroit water to Flint River water has been an increase of lead leaching into its drinking water from lead service lines. My Regional Administrator would like OGC's opinion on whether the purchase of home water filters (the kind that attach at the faucet) would be an eligible cost under the DWSRF Local Assistance set-aside. I'm writing to you directly as this is somewhat urgent. If there is some other protocol I should follow to request this, please let me know. Thanks for your help!

Here's a link to an article regarding a press conference this morning:

http://www.mlive.com/news/flint/about_a_t/index.ssf/2015/09/coalition_for_clean_water_dema.html

	Clean water activists demand Detroit reconnection in Flint after lead study MLive.com
	<p>The Coalition for Clean Water is demanding Flint's administration switch back to purchasing water from Detroit after recent studies showed a spike in lead levels in drinking water and in children since the switch to Flint River water more than a year ago.</p> <p>Read more...</p>

To: Daguillard, Robert[Daguillard.Robert@epa.gov]; Loop, Travis[Loop.Travis@epa.gov]; Han, Kaythi[Han.Kaythi@epa.gov]; Cassell, Peter[cassell.peter@epa.gov]
Cc: Conger, Nick[Conger.Nick@epa.gov]; Harrison, Melissa[Harrison.Melissa@epa.gov]; Abrams, Dan[Abrams.Dan@epa.gov]; Rowan, Anne[rowan.anne@epa.gov]
From: Kelley, Jeff
Sent: Thur 10/1/2015 2:53:40 PM
Subject: RE: OW/R5 ACTION: MICHIGAN PUBLIC RADIO; DDL 10/2; FLINT, MI WATER SYSTEM CORROSION CONTROL Press Inquiry about Drinking Water - corrosion control treatment

This is a very hot issue in Region 5 ... we've been working with this reporter for a couple weeks. The answer to the question she poses is apparently more complicated than it seems. Call me if you'd like to discuss further.

Jeff Kelley
Director, Office of External Communications
U.S. EPA Region 5
ph: 312-353-1159

From: Daguillard, Robert
Sent: Thursday, October 01, 2015 9:47 AM
To: Loop, Travis; Han, Kaythi; Kelley, Jeff; Cassell, Peter
Cc: Conger, Nick
Subject: OW/R5 ACTION: MICHIGAN PUBLIC RADIO; DDL 10/2; FLINT, MI WATER SYSTEM CORROSION CONTROL Press Inquiry about Drinking Water - corrosion control treatment

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Cc: Conger, Nick[Conger.Nick@epa.gov]; Harrison, Melissa[Harrison.Melissa@epa.gov]; Abrams, Dan[Abrams.Dan@epa.gov]; Rowan, Anne[rowan.anne@epa.gov]
From: Daguillard, Robert
Sent: Thur 10/1/2015 2:57:19 PM
Subject: RE: OW/R5 ACTION: MICHIGAN PUBLIC RADIO; DDL 10/2; FLINT, MI WATER SYSTEM CORROSION CONTROL Press Inquiry about Drinking Water - corrosion control treatment

Thank you, Jeff.

+ Melissa, who I understand has been following this issue.

Best regards, R.

From: Kelley, Jeff
Sent: Thursday, October 01, 2015 10:54 AM
To: Daguillard, Robert; Loop, Travis; Han, Kaythi; Cassell, Peter
Cc: Conger, Nick; Harrison, Melissa; Abrams, Dan; Rowan, Anne
Subject: RE: OW/R5 ACTION: MICHIGAN PUBLIC RADIO; DDL 10/2; FLINT, MI WATER SYSTEM CORROSION CONTROL Press Inquiry about Drinking Water - corrosion control treatment

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To: Bartlett, Deane[Bartlett.Deane@epa.gov]; Bogoshian, Matthew[Bogoshian.Matt@epa.gov]; Cozad, David[Cozad.David@epa.gov]; Dierker, Carl[Dierker.Carl@epa.gov]; Dolph, Becky[Dolph.Becky@epa.gov]; Field, Stephen[Field.Stephen@epa.gov]; Frankenthaler, Douglas[Frankenthaler.Douglas@epa.gov]; Frey, Bert[frey.bertram@epa.gov]; Gable, Kelly[Gable.Kelly@epa.gov]; Giles-AA, Cynthia[Giles-AA.Cynthia@epa.gov]; Harrison, Ben[Harrison.Ben@epa.gov]; Kaplan, Robert[kaplan.robert@epa.gov]; Mackey, Cyndy[Mackey.Cyndy@epa.gov]; Michaud, John[Michaud.John@epa.gov]; Mitchell, Stacey[Mitchell.Stacey@epa.gov]; Morgan, Jeanette[Morgan.Jeanette@epa.gov]; Moyer, Robert[Moyer.Robert@epa.gov]; Muller, Sheldon[Muller.Sheldon@epa.gov]; Nalven, Heidi[Nalven.Heidi@epa.gov]; Roberts, Martha[Roberts.Martha@epa.gov]; Rodrigues, Cecil[rodrigues.cecil@epa.gov]; Schaaf, Eric[Schaaf.Eric@epa.gov]; Senn, John[Senn.John@epa.gov]; Shapiro, Mike[Shapiro.Mike@epa.gov]; Shepherdson, Melanie[Shepherdson.Melanie@epa.gov]; Siegal, Tod[Siegal.Tod@epa.gov]; Starfield, Lawrence[Starfield.Lawrence@epa.gov]; Stern, Allyn[Stern.Alyn@epa.gov]; Theis, Joseph[Theis.Joseph@epa.gov]; Wade, Alexis[Wade.Alexis@epa.gov]; Walker, Mike[Walker.Mike@epa.gov]; Ward, W. Robert[Ward.Robert@epa.gov]; OGC WLO[OGC_WLO@epa.gov]; Conger, Nick[Conger.Nick@epa.gov]; Tozzi, Lauren[Tozzi.Lauren@epa.gov]; Walker, Denise[Walker.Denise@epa.gov]; Matthew, Dayna[Matthew.Dayna@epa.gov]; Charlton, Tom[Charlton.Tom@epa.gov]; Portmess, Jessica[Portmess.Jessica@epa.gov]; kaminer, joan[Kaminer.Joan@epa.gov]
From: Turley, Jennifer
Sent: Thur 10/1/2015 2:59:17 PM
Subject: Water Law News for October 1, 2015



Water Law News for October 1, 2015

Bloomberg BNA Daily Environment Report™

Budget

Congress Clears Funding Bill Minus Environmental Riders

A short-term federal spending bill without policy provisions that affect environmental programs cleared both chambers of Congress with hours to spare before a government shutdown....

Great Lakes

Climate Resiliency Added to Great Lakes Cleanup Plans

Federal agencies are taking several new approaches as they enter a second phase in cleaning up the Great Lakes, including incorporation of climate resiliency criteria into their planning, an Environmental Protection Agency official told...

Hydraulic Fracturing

New Federal Fracking Rules Blocked by Judge in Wyoming

New federal fracking regulations have been blocked by a U.S. judge in Wyoming, who said the Bureau of Land Management lacks the authority to control hydraulic fracturing (Wyoming v. Interior, D. Wyo., No. 15-CV-43, 9/30/15)....

Hydraulic Fracturing

Toxics, Water Use Top Fracking Concerns: Researcher

Public concerns about hydraulic fracturing to extract oil and natural gas include the toxicity of the compounds and the quantity of water used in the procedure, a researcher with the Environmental Protection Agency's Science Advisory...

Oil & Gas

Regulators' Primer Helps States Address Earthquakes

Risk management, mitigation and response strategies are most effective in trying to reduce earthquakes associated with the underground injection of wastewater from oil and natural gas operations when local geology and surface conditions...

Water Pollution

Army Corps Chief Defends Role in Developing WOTUS Rule

The head of the U.S. Army Corps of Engineers staunchly defended the agency's role in writing a final Clean Water Act jurisdiction rule with the Environmental Protection Agency before skeptical Republicans on a Senate Environment and...

Water Pollution

EPA Delays Power Plant Effluent Limits Compliance

The Environmental Protection Agency has given power plants an additional year—until at least 2018—to comply with a final rule released Sept. 30. The extra year will give utilities more time to coordinate with EPA's rule...

Water Pollution

EPA Requiring Suite of Controls for Power Plant Discharges

Operators of an estimated 1,080 coal, gas and nuclear power plants and any other new plants that come online will be required to use a mix of controls to minimize discharges of zinc, selenium, arsenic, mercury and other toxic pollutants under...

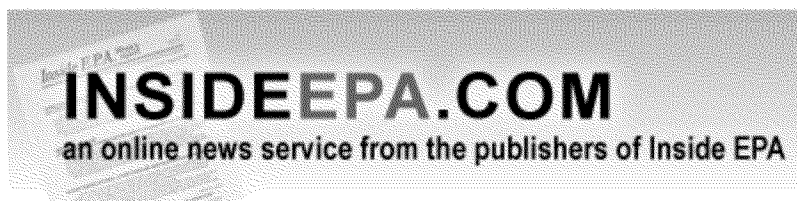
Water Pollution

Unused Water Earmarks Should Be Returned, EPA IG Says

More than \$6 million in funds earmarked for water projects in various communities hasn't been spent and either should be used as intended or returned to the U.S. Treasury, the Environmental Protection Agency's inspector general...

CORRECTION

An article in the Sept. 30 report about National Environmental Policy Act and Clean Water Act challenges to a pipeline running from Illinois to Oklahoma incorrectly said the pipeline was part of Keystone XL. It is not. The online version has...



Inside EPA's **Weekly Report**, 10/02/2015

<http://insideepa.com/newsletters/inside-epa>

Latest News

Final EPA Utility Effluent Rule Backs Advocates' Call For Stringent Limits

EPA's final Clean Water Act (CWA) rule setting technology standards for power plants' effluent backs stringent limits championed by environmentalists, prompting praise from advocates who had warned that the rule -- one of the last major pending agency policies for the power sector -- would be unlawful if EPA selected weaker controls.

News Briefs

GOP Senators Say Corps Memos Undermine 'Waters' Rule

GOP senators say internal Army Corps of Engineers memos faulting the Obama administration's Clean Water Act (CWA) jurisdiction rule undermine the legal basis for the policy, with Republicans predicting that courts will refuse to defer to agencies' discretion on crafting the rule -- though a top Corps official is downplaying the memos.

Greenwire

LAW:

'Mr. Clean Water Act' faces his biggest challenge

Jeremy P. Jacobs and Annie Snider, E&E reporters

Published: Wednesday, September 30, 2015

Veteran Justice Department attorney Steve Samuels' license plate made him a celebrity among environmentalists everywhere he drove.

"CWA 404."

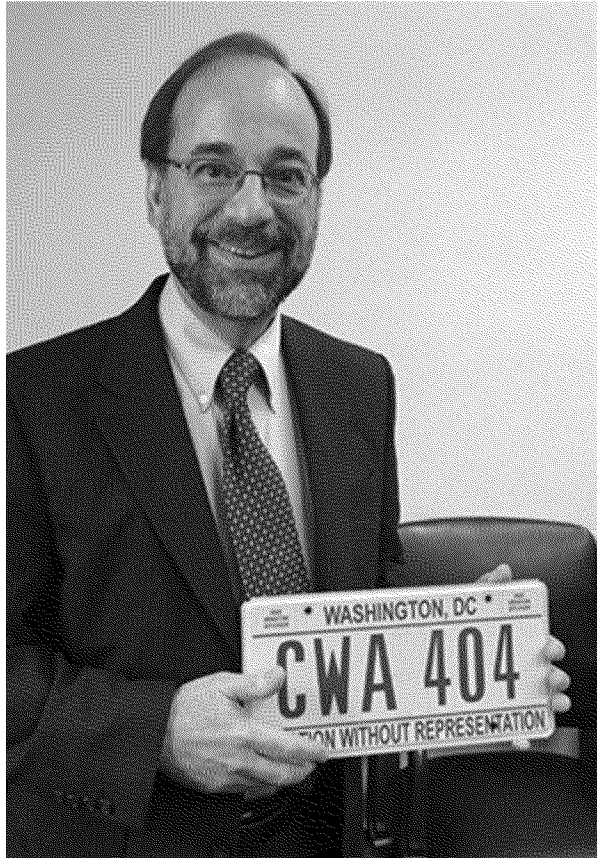
The District of Columbia plate refers to Clean Water Act Section 404, the law's primary wetlands provision. In his 30 years at DOJ, Samuels has become the government's most recognizable expert on the law -- though he concedes no layperson ever asked about his license plate.

Now Samuels faces his greatest challenge: defending the Obama administration's controversial Waters of the U.S. rule, or WOTUS, which defines which wetlands, marshes, bogs, ponds and streams qualify for Clean Water Act protections. The rule took effect at the end of August, and 31 states, countless industry

groups and even a few environmental nonprofits are now challenging it in courts across the country.

The result has been a legal game of what Samuels calls "whack-a-mole" as he and his team have sought to quash lawsuits from North Dakota to Georgia to Texas. And the biggest fight lies ahead in years of litigation that will almost certainly reach the Supreme Court.

For Samuels, who has been described as a "lawyer's lawyer," "tenacious" and "Mr. Clean Water Act," the rule and lawsuits are a culmination of his life's work. Now 63, he put off retirement to defend the policy.



Steve Samuels, a veteran DOJ attorney playing a lead role in defending the Obama administration's new Clean Water Act rule, loves the law's wetlands provision -- Section 404 -- so much, he advertised it on his license plate for years. Photo by Annie Snider.

"Nobody within the Department of Justice and probably few in town, including at EPA, know the Clean Water Act better than Steve Samuels," said Thomas Lorenzen, a former DOJ environmental attorney now at the firm Crowell & Moring. "I think he has a somewhat proprietary feeling about these rules -- including Waters of the U.S. This is really a capstone to his career."

Samuels grew up in Paragould, Ark., in one of the town's only Jewish families. His father owned a scrapyard, and his parents emphasized education, boarding Samuels and his three brothers at the prestigious Phillips Academy in Andover, Mass.

For his undergraduate degree, he headed to Tulane University, where he developed a strong idealist streak. He managed George McGovern's presidential campaign in 1972 at the university and was selected as an alternate delegate at the Democratic National Convention that year in Miami.

At the convention, Samuels soon found himself embroiled in controversy. Though he personally backed McGovern, he was instructed to cast all his votes for Arkansas Rep. Wilbur Mills, the powerful Ways and Means chairman who mounted an insurgent challenge to McGovern at the convention. A "favorite son" candidate, Mills was counting on support from all the Arkansas delegates.

After casting a midnight vote on a procedural issue that was in McGovern's favor, the then-20-year-old Samuels was summoned to his congressman's hotel room the next morning. There, Rep. Bill Alexander (D) "started turning the screws," Samuels recalled.

"I found that very off-putting," he said. "I thought, 'I am going to go to law school, and I am going to run. I am going to beat Bill Alexander.'"

Those aspirations disintegrated at Stanford Law School.

"It doesn't turn you into a complete cynic, but it definitely sends you in that direction," he said of law school. "I didn't lose all my idealism."

Still committed to the idea of public service, Samuels set his sights on a government job after law school

He landed in the legal arm of the Federal Energy Administration, the Department of Energy's precursor. After several years there, he followed his boss into private practice for five years -- a move he would later regret.

It was "pretty much a black hole," he recalled. "I was counting the time until I could leave."

'Peak of environmental law'

Samuels joined DOJ's environmental division on Dec. 8, 1985.

He remembers the date because it was four days after the Supreme Court decided *United States v. Riverside Bayview Homes* -- a major win for an expansive view of environmental law and the last time the high court voted unanimously on a wetlands issue.

In that case, the court ruled that the Army Corps of Engineers reasonably interpreted the scope of the Clean Water Act to apply to wetlands adjacent to traditionally navigable waters.

"It was really the peak of environmental law under the Clean Water Act," he said. "Frankly, it's been downhill since. That was the top of the mountain. ... Everything that has happened since has been struggling to keep the program going."

Most of the challenges have come from the Section 404 program, the complex permitting process for dredging and filling wetlands. The issue is controversial for several reasons, including that 75 percent of all wetlands are on private property -- spurring legal challenges. The program is also jointly administered by the Army Corps and U.S. EPA, an awkward if not dysfunctional marriage.

But the biggest hurdles for the program were actually thrown up by the Supreme Court. In the 2001 case *Solid Waste Agency of Northern Cook County v. Army Corps*, the high court struck down the agencies' Migratory Bird Rule, which had allowed federal jurisdiction over scattered ponds, marshes and bogs if they provided habitat for migrating waterfowl.

With that 5-4 decision, Samuels said, "everything changed." All of a sudden, it was unclear what types of water bodies qualified for federal protections.

As industry, environmental groups and regulators tried to make sense of the ruling's effects, Samuels was invited to interpret the ruling for groups across the country. He gave 68 presentations in the wake of the Supreme Court's *SWANCC* decision.

Whether he wanted it to or not, the ruling made Samuels the face of government Clean Water Act policy. And that profile was bolstered by the Supreme Court's even more confusing decision in 2006's *Rapanos v. United States*.

In a splintered 4-1-4 decision concerning Michigan wetlands, the court again ruled against the federal agencies' take on jurisdiction. But the justices could not agree on what the standards should be for federal protection.

Justice Anthony Kennedy sided with the conservatives but in his own opinion disagreed with their reasoning, arguing instead that a wetland that isn't adjacent to a navigable body must have a "significant nexus" to larger downstream rivers and lakes.

Rapanos baffled regulators and permit seekers alike about when a stream or wetland was subject to federal permitting. Was it Kennedy's "significant nexus" test? Or the one from Justice Antonin Scalia's opinion for the conservative justices that was generally more restrictive of federal regulation?

Samuels, who is now assistant section chief of DOJ's Environmental Defense Section, helped craft the legal strategy arguing that either was sufficient for the government to establish that a water body qualifies. The question was fought over in nearly 80 lawsuits across the country, with federal appeals courts in different circuits reaching different conclusions.

Under Samuels, DOJ was remarkably successful given the ambiguities of the *Rapanos* and *SWANCC* opinions.

"The government won 90 percent or more of the cases that were litigated post-*SWANCC*," said Pat Parenteau, an environmental law professor at Vermont Law School who has faced Samuels in court. "A lot of the early cases were defendants trying to reopen cases and arguing that they shouldn't have been subject to criminal prosecution, they shouldn't have been subject to penalties."

Legal floodgates open

On the ground, the muddled high court decisions led to massive confusion and delays.

After years of requests from industry and environmental groups, the Obama administration undertook a rulemaking aimed at clearing up the regulatory morass.

EPA and the Army's final rule, unveiled in May, hewed closely to Kennedy's "significant nexus" test with the court's usual swing vote in mind. It counted all tributaries in automatically, and set first-ever limits for when a wetland or pond is too far from the river network to qualify for federal protection (*Greenwire*, June 5).

Farm groups and states sharply criticized the regulations, claiming the government is acting far beyond the authority granted by the Clean Water Act.

And a flood of lawsuits soon followed.

More than a dozen suits were filed in federal district courts across the country. Almost all requested

preliminary injunctions seeking to halt the rule before it went into effect Aug. 28. Only one of those was successful; in North Dakota, a federal judge blocked the rule in 13 states ([Greenwire](#), Aug. 28).

The rule has gone forward in the remaining 37 states, though 11 of those 37 have also appealed a district court ruling against an injunction.

The remaining district court cases have been sent to a Judicial Panel on Multidistrict Litigation, which will decide as soon as next month which court will hear the consolidated district-level cases.

But because of vague language in the Clean Water Act, it's unclear whether a district court has jurisdiction to hear a challenge to the WOTUS rule in the first place. Some believe the law authorizes those challenges to be filed directly to federal appellate courts.

So, 15 cases have also been filed in those circuit courts nationwide. Those cases are now all sitting at the 6th U.S. Circuit Court of Appeals in Cincinnati, and that court has said it will rule on the jurisdiction question -- meaning, in which court the lawsuits belong -- in the coming months. That won't be the end of the issue, however, because the 11th U.S. Circuit Court of Appeals in Atlanta will also decide that issue because of the pending 11-state appeal.

Rulings from those two courts, if they conflict, could pave the way to the Supreme Court on just the jurisdiction question. That's before any court even gets to the merits of the WOTUS rule's constitutionality. (Samuels is certain to play a leading role in the government's strategy no matter what court ends up hearing the case, though if it goes directly to appeals court, he will be supporting the department's appellate arm.)

There are also a host of other procedural questions that need to be resolved, including whether either of those rulings could affect the North Dakota court's injunction.

It's a "nationwide game of whack-a-mole," Samuels said.

"I personally, in 30 years, have never experienced anything like this," he said. "I'm not sure the division has. I'm not sure the Department of Justice has. So many challenges in district courts to the same agency action. And so many challenges in courts of appeals. And so much uncertainty about which court has jurisdiction."

That said, Samuels was not caught by surprise.

"We anticipated this," he said.

'I dream about briefs'

Samuels has a five-attorney team that is working around the clock. He calls it the "most gratifying experience" of his career.

That doesn't mean he's got an easy road ahead.

While many of the states' constitutional and procedural challenges were predictable, a surprise development came this summer when a congressional committee disclosed internal Army Corps memos that laid out a searing criticism of the rule.

Specifically, the agency's experts argued that changes made in the final version of the rule could leave as much as 10 percent of previously protected wetlands outside the scope of the Clean Water Act and that

an environmental impact statement was thus required under the National Environmental Policy Act -- a procedural step the agencies did not take ([Greenwire](#), July 27).

It's unclear what role those memos will play in the litigation, though the North Dakota federal judge highlighted them in issuing his injunction.

"In all my years of handling Clean Water Act cases, issues and the like, I've never seen such a vehemence -- disagreement -- between the corps and EPA," said Larry Liebesman, a former DOJ attorney who worked with Samuels earlier in his career.

Parenteau, the Vermont Law professor, called the memos a "wrinkle" for Samuels but noted that it's DOJ's job to represent the United States, not the Army Corps or EPA.

"In terms of their posture before the court, they're used to having agencies disagree, and they're used to having to figure out the position of the United States," he said. "So that's nothing new, but the way this came out and the strength of the opposition, that might cause him some sleepless nights."

The work has, indeed, become all-consuming for Samuels, leaving little time for his other hobbies -- the Washington Nationals and traveling.

"I dream about briefs," he said. "I wake up and I have been dreaming about what we're saying."

WATER POLLUTION:

EPA finalizes long-awaited power plant discharge rule

[Katherine Ling](#), E&E reporter

Published: Wednesday, September 30, 2015

U.S. EPA today gave owners of coal-fired power plants a bit of breathing room under long-awaited final standards that raise the bar for cutting toxic metal discharge.

The [final rule](#) announced today updates for the first time in 30 years federal limits on toxic metals in power plant discharge wastewater but allows industry more time to coordinate how it will comply with these new standards and a rule governing coal ash released at the end of last year, EPA said.

The original 1982 rule focused on solid particulates rather than dissolved pollutants like mercury, lead, selenium and other heavy metals, many of which do not break down for years.

The new rule is "strong but achievable" and "provides flexibility" by creating a phased-in approach to the new requirements between 2018 and 2023, Ken Kopocis, EPA's deputy assistant administrator for water, said today during a call with reporters about the new rule.

It will "allow industry to make rational decisions" about where to make investments related to fuel changes or how to handle waste, Kopocis said.

Steam electric power plants are responsible for more than half of all toxic pollutants poured into surface waters by all industrial categories regulated by the Clean Water Act, or about 5.5 billion pounds of wastewater, according to EPA.

The agency estimates the new rule will cut 1.4 billion pounds of toxic pollutant discharge from electric power plants at a price tag of \$480 million per year. It will also reduce water withdrawal by power plants by 57 billion gallons per year, providing an estimated annual benefit of \$463 million.

A proposed rule issued in 2013 would have cut up to 2.6 billion pounds of pollutants, but compliance costs for industry could have skyrocketed to \$954 million per year.

The final rule borrows heavily from what was described at "option 4" under the proposed rule, controversially including the need for plants producing more than 50 megawatts of power to put fly ash and "bottom ash" -- waste left at the bottom of the boiler -- in landfills, known as dry handling, and providing additional compliance time if owners put in more advanced technology (*Greenwire*, Sept. 29).

"This is a major step forward for protecting the health of American families, especially our kids," Kopocis said.

It is "based on readily available technology that many in the industry already use today while producing affordable power," Kopocis said, noting that 134 plants of 1,080 current plants would incur costs to meet the new requirements, and the requirements would add "pennies" to monthly household power bills.

Environmental groups welcomed the new rule.

"We don't drive cars or fly airplanes based on 1982 safety standards, so why should we allow power plants to dump poisons into our waters under such outdated standards?" Earthjustice attorney Thomas Cmar said in a statement. "Today's rule finally ends the decades-old industry practice of using massive amounts of water to move toxic waste out of power plants and into unlined impoundments, which ultimately goes into our rivers, lakes and streams. This rule is a big step forward, and we stand prepared to help defend against any industry attempts to weaken it."

Dalal Aboulhosn of the Sierra Club said the rule is "a major step in making sure our waterways are not only safe to swim and boat in, but also safe to fish from and use as drinking water."

A 2013 report from a coalition of green groups found that 70 percent of coal-fired power plants' permits had no discharge limits for toxins that are linked with neurological damage, cancer and fish die-offs. More than a quarter of the plants the groups looked at were releasing such metals into waterways that were already declared impaired (*E&ENews PM*, July 23, 2013).

Reporter Annie Snider contributed

OCEANS:

Greens' hopes for quick win on New England monument fade

Emily Yehle, E&E reporter

Published: Wednesday, September 30, 2015

One month ago, environmental groups were strategizing over their latest bid: Get the Obama administration to create its first marine monument off New England.

They had talks with fishing groups, lawmakers and think tanks. At the end of August, they exchanged emails over their progress -- and in one, the president of the Conservation Law Foundation warned everyone to keep quiet about the possibility of a breakthrough at the upcoming Our Ocean Conference in

Chile.

"I hope no one is talking about Chile to the outside world," CLF Interim President Peter Shelley wrote. "It's one of the few advantages we may have to know that it could happen sooner rather than later."

The email showed up in response to a public records request that Saving Seafood filed with the office of Maine Gov. Paul LePage's. The advocacy group -- which represents fishermen opposed to the monument -- sent the emails to *Greenwire* yesterday, asserting that they confirm "rumors" of an impending monument announcement from the White House.

Such an announcement would certainly make waves. The proposed monument is small and sees little activity today, but it is near prime fishing grounds. House Republicans have also added the proposal to their arsenal of criticism over the White House's use of the Antiquities Act (*E&E Daily*, Sept. 30).

But Shelley, in an interview today, said the email was just hopeful speculation. With the conference coming up, environmental groups had hoped to convince the Obama administration that the New England marine monument was shovel-ready and ideal for a conference announcement.

"The time was pretty short to pull it off. We thought there might be an opportunity we could get them to think about these areas for an announcement in conjunction with the Our Ocean Conference," Shelley said. "We were trying to keep that quiet because we didn't want to give the opposition more of an advantage. The more time they had, the more opportunity they would have to lobby, to fight it, to organize against it."

Chile is set to host the second Our Ocean Conference in Valparaíso next week. The State Department hosted the first one last year -- and used it as an opportunity to announce that Obama would drastically expand the Pacific Remote Islands Marine National Monument (*Greenwire*, June 17).

Robert Vanasse, executive director of Saving Seafood, said rumors that the White House would make an announcement at the conference have been making the rounds for a few weeks.

"Given that last summer the Pacific monument expansion announcement took place at the State Department oceans summit, that seemed in keeping with previous actions," Vanasse said. "We don't put a lot of stock in Washington rumors; however, whenever our various [Freedom of Information Act] filings yielded this document, it seemed to be in sync with the rumors around town."

The creation of monuments is usually shrouded in secrecy. Presidents can unilaterally create them under the Antiquities Act, a century-old law that requires no public process and no congressional approval.

Shelley called the process a "black hole." So environmental groups, he said, framed their campaign off the assumption that the Obama administration would want to make a big announcement at next week's conference -- and that it might consider the New England monument if there was a strong show of support.

CLF worked with the Natural Resources Defense Council, Pew Charitable Trusts and other groups to organize an event at the New England Aquarium in Boston in early September. More than 600 people showed up to see new footage of the underwater canyons and seamounts that the groups want protected under a marine monument designation.

"Our coalition of organizations had hoped that the president would see this unprecedented show of support -- indeed the largest event to support marine conservation ever held in New England -- as a springboard for action," said Peter Baker, Pew's director of U.S. oceans in the Northeast, in an email today. Environmental groups have since collected more than 160,000 signatures of support and submitted them to the National Oceanic and Atmospheric Administration.

But that optimism appears to have faded. Both Shelley and Baker said they do not expect the White House to make an announcement next week. While the groups have sent the proposal to the White House and officials within the State Department, "we have gotten no commitment or agreement or even a sign" that any decision is upcoming, Shelley said.

Opponents and supporters of the monument, however, believe the Obama administration is at least considering it. NOAA held a town hall on the idea earlier this month, and hundreds showed up to make comments (*Greenwire*, Sept. 17).

Environmentalists say a marine monument is the only way to ensure protection for unique canyons and seamounts that are home to deep-sea corals and a variety of wildlife. Commercial fishermen say protections put in place by the New England Fishery Management Council are sufficient, despite the fact that the council can only prevent fishing and no other resource extraction or development.

Saving Seafood's Vanasse pointed to the Mid-Atlantic Fishery Management Council, which recently protected similar canyons offshore after fishing groups and environmentalists came together. Members of the council and the Garden State Seafood Association are set to receive an award for that work, along with some of the same conservationists who want a marine monument in New England.

"At the same time that conservation groups are praising those cooperative efforts, they're attempting to circumvent that same process in New England, which I find hypocritical," Vanasse said.

WATER POLLUTION:

Army official defends decisions on hot-button rule

Annie Snider, E&E reporter

Published: Wednesday, September 30, 2015

A top political official overseeing the Army Corps of Engineers today offered a full-throated defense of her work on the controversial Waters of the U.S. regulation despite concerns raised by her own technical and legal experts.

Assistant Secretary of the Army for Civil Works Jo-Ellen Darcy was "under no pressure" to sign the rule, jointly developed with U.S. EPA, and considered all opinions in making her decisions on the rule, she told the Senate Environment and Public Works Subcommittee on Fisheries, Water and Wildlife.

"The choices and decisions I made on behalf of the Army were reached after receiving the corps' input and always in close consultation with EPA," Darcy testified. "I am proud of the Army's role in developing the rule. We stand shoulder to shoulder with our colleagues at EPA in support of the merits of the final rule and the process used to develop it."

Internal memos that were made public this summer show the corps' legal and technical experts voiced fundamental concerns about changes made to the rule between its proposed and final version. The corps' then-No. 2 general for civil works, Maj. Gen. John Peabody, told Darcy in those memos that his staff felt cut out of the rulemaking process and asked that the corps' name be taken off all documents (*Greenwire*, July 27).

Testifying today, Darcy underscored that the authority for making key policy decisions on the rule, which is aimed at clearing up which streams and wetlands fall under the protection of the Clean Water Act, lay

with her.

"I believe that if there's a difference of opinion, it is my responsibility to make a call," she said. "That's my job."

Darcy also noted that several changes were made to the final version of the rule based on the corps' comments, although in a brief interview after the hearing she told *Greenwire* that she had not asked corps experts whether the changes satisfied their concerns.

Although Darcy and committee Democrats cast the memos as simply showing the normal internal debate that takes place during any rulemaking process, subcommittee Chairman Dan Sullivan (R-Alaska) pushed back hard against that notion.

"I am not talking about legal interpretations or policy disputes," he said. "What we are focused on today are statements that the agencies presented as facts, that, according to technical memorandum written by experts at the Corps of Engineers, are simply not true."

Republican critics of the rule on the panel quoted extensively from the fiery memos and asked specific questions about how decisions in the final rule were made.

Ultimately, Sen. John Barrasso (R-Wyo.) argued that process issues raised in the corps memos further made the case for his preferred action -- withdrawal of the rule and legislative intervention in the form of his measure, S. 1140.

In addition to legislative efforts to overturn the water rule, 31 states and a number of industry groups across the country are challenging it in court. The administrative record will be the playing field on which legal battles are fought.

Darcy said today that the government's position is that those memos should not be part of the record, although a judge could disagree. Which venue will hear these challenges, though, remains a complex and open question (*see related story*).

APPROPRIATIONS:

Senate clears spending bill, sets up House action

Manuel Quiñones, E&E reporter

Published: Wednesday, September 30, 2015

The Senate approved legislation this morning to keep the federal government funded through Dec. 11, just hours before a potential shutdown.

The Senate voted 78-20 in favor of the continuing resolution despite pleas from conservative Republicans to defund the nonprofit Planned Parenthood over abortion concerns.

Beyond keeping the government open, the bill would provide emergency wildfire suppression funds. The House is scheduled to follow the Senate with a vote later this afternoon.

Beyond the current action, Senate Majority Leader Mitch McConnell (R-Ky.) said he will continue pushing for Congress to pass a series of yearlong appropriations bills. Next up, he said, is legislation to fund military construction and veterans' issues for fiscal 2016.

Democrats have been stalling spending bills from moving forward in the Senate, demanding instead talks toward a bipartisan budget agreement. McConnell hopes the military and veterans bill is too politically sensitive to block.

McConnell said this morning, "It's not right for [Democrats] to again force America into another short-term funding situation like this."

Both McConnell and Senate Democratic Leader Harry Reid (D-Nev.) have promised to engage in talks over spending levels for the next two years.

Reid said, "We should have started this process months ago. Better late than never. Hallelujah. Here we're ready to negotiate."

FEDERAL WORKFORCE:

Shutdown pay bill introduced in House

Kevin Bogardus, E&E reporter

Published: Wednesday, September 30, 2015

Reps. Don Beyer (D-Va.) and Rob Wittman (R-Va.) have introduced legislation that would ensure back pay for federal employees in the event of a government shutdown.

H.R. 3635, the "Federal Employee Retroactive Pay Fairness Act," would secure pay for government workers who would see their salaries suspended if there were a lapse of funding and agencies had to close their doors. The lawmakers introduced the bill yesterday and already have another 67 co-sponsors in support of the legislation.

Lawmakers have battled over whether to include federal funds in the government spending bill for reproductive health group Planned Parenthood -- seemingly threatening a governmentwide shutdown in the process. Nevertheless, the House is poised to pass a stopgap funding measure today before the government runs out of money (*see related story*).

In a statement, Beyer said Congress should not "jeopardize" federal employees' financial security.

"Federal employees have financial obligations just like everyone else. Congress must not jeopardize their financial security yet again," Beyer said. "This bipartisan legislation ensures that these public servants are made whole if Congress cannot keep our government running."

Wittman said, "It is critical to protect these public servants and their families from this uncertainty, and at the same time to bring accountability to the way Congress carries out its business. Long-term vision is necessary for ending this recurring cycle of governing by crisis."

In announcing the bill, both Beyer's and Wittman's offices noted that the lawmakers' Virginia districts are home to roughly 120,000 federal employees altogether.

Federal worker unions such as the American Federation of Government Employees and the National Treasury Employees Union have voiced support for the bill.

Sen. Ben Cardin (D-Md.) has introduced similar legislation in the upper chamber. His bill would guarantee pay for furloughed federal employees and was cheered by unions, as well ([E&E Daily](#), Sept. 17).

HOUSE:

GOP sets leadership elections for next week

Daniel Bush, E&E reporter

Published: Wednesday, September 30, 2015

House Republicans next week will hold their caucus's leadership elections.

Retiring House Speaker John Boehner (R-Ohio) announced today that the race for speaker and other leadership posts will be held Oct. 8, giving candidates one week to shore up support in a deeply divided GOP conference.

"After consulting with our conference, a large majority of our members have made clear they want these elections held next week," Boehner said in a statement.

Majority Leader Kevin McCarthy (R-Calif.) is widely expected to win the speaker's race against Rep. Daniel Webster (R-Fla.), though some members of the House GOP's conservative wing insist McCarthy doesn't have the 218 votes needed to clinch the race.

"It's clear that McCarthy doesn't have 218 votes yet," Rep. Thomas Massie (R-Ky.) said last night after House Republicans held a closed-door meeting on the caucus's future ([E&E Daily](#), Sept. 30).

But others said McCarthy has the speaker's race locked up.

"I would be shocked if he does not [win]. I think he has the support of the vast majority" of the conference, Rep. Chris Stewart (R-Utah) said after the meeting.

The races for other leadership posts are less predictable, however. Majority Whip Steve Scalise (R-La.) and Budget Chairman Tom Price (R-Ga.) are vying to replace McCarthy as majority leader. Price received a boost earlier this week when powerful Ways and Means Chairman Paul Ryan (R-Wis.) endorsed him for the House GOP's No. 2 post.

Chief Deputy Whip Patrick McHenry (R-N.C.), Rules Chairman Pete Sessions (R-Texas), and Reps. Dennis Ross (R-Fla.) and Markwayne Mullin (R-Okla.) are running for majority whip.

The elections will be held less than two weeks after Boehner shocked the political world by announcing he would retire Oct. 30 ([Greenwire](#), Sept. 25).

WATER POLLUTION:

Court upholds EPA livestock data rule in win for ag groups

Tiffany Stecker, E&E reporter

Published: Wednesday, September 30, 2015

The U.S. District Court for the District of Columbia yesterday ruled in favor of U.S. EPA's decision to withdraw a 2012 rule to collect pollution data from large livestock operations, marking a blow for environmental groups that have long pushed for more accountability on agriculture's impact on waterways.

Speaking for the court, Judge Randolph Moss wrote in his opinion that the plaintiffs -- the Environmental Integrity Project, Food and Water Watch, the Humane Society of the United States, and other environmental and health groups -- could not show that EPA's decision to pull the rule was "arbitrary and capricious," citing the agency's deference on rulemaking decisions.

A court opinion against EPA would "unduly encroach on the discretion of the agency to decide how best to allocate its resources and to perform its assigned functions," wrote Moss, a President Obama appointee.

Environmentalists have pushed the agency for years to track the amount of nitrogen and phosphorus pollution from manure on concentrated animal feeding operations (CAFOs) that is released to nearby streams. As part of a 2011 legal settlement, EPA agreed to issue the so-called CAFO reporting rule, which would have authorized the agency to collect information on the large-scale animal facilities. EPA withdrew the rule a year later, saying the regulation would duplicate existing efforts with states to collect the information. Greens took the agency to court in 2013, claiming the withdrawal of the rule was arbitrary and capricious under the Administrative Procedure Act (*Greenwire*, Aug. 29, 2013).

Nutrient pollution can feed harmful algae blooms that rob waters of dissolved oxygen, killing fish and other aquatic life. The algae can also be toxic to humans and mammals, as observed in the large Lake Erie bloom last summer that forced the city of Toledo, Ohio, to shut off its taps for 48 hours. Nitrate pollution in drinking water is linked to blue baby syndrome, a life-threatening condition that affects infants.

The defeat is disappointing but not surprising, said Scott Edwards, co-director of the food and water justice program at Food and Water Watch. Courts typically give agencies wide deference on rulemakings, and the fact the challenge was over the withdrawal of a rule -- not the rule itself -- set the threshold even higher.

"There's already an uphill battle when you go into these case," said Edwards, adding that the plaintiffs would meet in the coming days to discuss options for future action.

Michael Formica, senior environmental counsel for the National Pork Producers Council, said he was thrilled with the decision but not surprised.

"It's not EPA's job to do discovery and litigation prep for a bunch of environmental and activist groups," he said.

[Click here](#) to read the opinion.

ARCTIC:

Locals demand icebreakers despite Shell's exit

Published: Wednesday, September 30, 2015

Days after Royal Dutch Shell PLC announced it was abandoning its oil exploration of Alaska's coast, locals are demanding that infrastructure improvements still be made.

Reggie Joule, mayor of the Northwest Arctic Borough, said that even without Shell, traffic in the Arctic will increase and the region needs more polar icebreakers and its first deepwater port.

"We are all pretty aware that the Coast Guard in Alaska is pretty challenged in terms of how they are resourced," Joule said.

Shell's exit will mean 80 fewer transits through the Bering Strait, but the growth in the region is expected to continue. Early Coast Guard estimates put Bering Strait transits close to 500 this year, compared with 350 last year. Commercial ships carrying fuel are still increasing their trips between Russia and other Asian countries, adventure tourism is increasing in the region, and Alaskan subsistence hunters are going farther north in search of food.

Despite the increases, Capt. Charles Cashin, second in command for the Coast Guard's Alaska district, said the service expects to maintain the same level of presence in the area.

That's not good enough for Nome Mayor Denise Michels.

"The Arctic is still opening," she said. "The U.S. is still behind on Arctic infrastructure. In fact, there's more of a pressing need to move forward because the global community is moving forward" (Alex DeMarban, *Alaska Dispatch News*, Sept. 29).

That's true especially in the Norwegian Arctic, where Italian giant Eni SpA says it will be producing oil by the end of this year.

The oil company is forging ahead with final preparations on a \$5.5 billion project in the Goliat oil field in the Barents Sea even as Shell decided to discontinue oil exploration in the Chukchi Sea this week.

Already, Eni has a 64,000-ton floating platform on-site in the Norwegian Arctic, and wells have already been drilled. The project still needs approval from Norwegian officials before production can begin.

Shell's initial return to the Arctic this year struck fear among environmentalists, but an Eni spokesman said the Goliat project is safe because the largely ice-free region is considered the "manageable Arctic."

The spokesman said Eni's platform has been "fully winterized."

Environmentalists acknowledged that the Norwegian Arctic is less risky than other parts of the region but did not agree that it is "manageable."

Suzanne Dhaliwal, a prominent campaigner and co-founder of the UK Tar Sands Network, said that while her group agrees that "the Goliat platform is a different beast," the argument would only lead to "slowly sliding to a mindset where Arctic drilling becomes socially acceptable" (Harry Davies, *London Guardian*, Sept. 30). -- AW

FEDERAL AGENCIES:

GAO finds widespread vulnerabilities in securing data

Kevin Bogardus, E&E reporter

Published: Wednesday, September 30, 2015

Congress' watchdog has given mixed reviews to several federal agencies on their handling of computer and personal information security.

The Government Accountability Office's critical report, released yesterday, highlighted weaknesses and vulnerabilities at 24 federal agencies across the government.

The study comes in the wake of the Office of Personnel Management's massive data breach that included the theft of personal data of 21.5 million people. In addition, OPM has since found that more people, up to 5.6 million, have had their fingerprint information stolen as part of that breach (*Greenwire*, Sept. 23).

In its report, GAO said it found agencies continue to have weak spots when it comes to protecting their information and computer systems. That can leave the government exposed to growing cyberthreats and the disclosure of personal data.

"Our work and reviews by inspectors general highlight information security control deficiencies at agencies that expose information and information systems supporting federal operations and assets to elevated risk of unauthorized use, disclosure, modification, and disruption," the watchdog said.

The vulnerabilities in government information security persist while threats have spiked upward. GAO found that since fiscal 2006, the number of security incidents reported by federal agencies has grown from 5,503 to 67,168 in fiscal 2014 -- an increase of 1,121 percent.

GAO reviewed agencies' handling of information security from fiscal 2013 and 2014 and came across several problems.

For example, the watchdog uncovered that 22 of the 24 agencies it examined had weaknesses in their access controls to their computer systems.

In addition, 18 agencies didn't have adequate continuity of operations plans in the case of accident or sabotage.

Also, GAO found that 23 agencies in fiscal 2014 had poor security management.

In its report, GAO notes that its recommendations for better information security, along with similar suggestions from other watchdogs, have gone unimplemented for years by agencies.

"Until federal agencies take actions to implement the recommendations made by us and the inspectors general, federal systems and information as well as sensitive personal information about the public will be at an increased risk of compromise from cyber-based attacks and other threats," said GAO in its study.

FEDERAL WORKFORCE:

Employees to see largest health care spike in 5 years -- OPM

Published: Wednesday, September 30, 2015

Federal employees will see their share of health care premiums rise by an average of 7.4 percent next year, which is the largest increase in five years.

Employees will also have a chance to switch insurance plans, which could help reduce costs, the federal government said yesterday.

Premiums in the Federal Employees Health Benefits Program are going up by 6.4 percent, but a larger share of that will be borne by federal workers. About 70 percent of the total premium is paid by the federal government.

Officials yesterday defended the increases as in line with similar increases in health care premiums in the private sector, though union officials blasted them as burdensome to workers.

"We are still in a period of relatively modest increases," said John O'Brien, the Office of Personnel Management's director of health care and insurance.

American Federation of Government Employees President J. David Cox Jr. warned the increases would be difficult for federal workers (Eric Yoder, Washington Post, Sept. 29). -- **SP**

FEDERAL AGENCIES:

Behavioral science can improve government, save cash

Published: Wednesday, September 30, 2015

The federal government could learn a lot from behavioral science.

That's the idea behind a new Obama administration initiative to create a Social and Behavioral Sciences Team to help make the government function better.

So far, it seems to be working. An experiment last year had vendors that supply federal agencies fill out a slightly different form reporting the rebates they owe the government. Instead of having the companies sign the forms at the end, the signature box was at the beginning.

The change made a huge difference. Companies signing that they would answer truthfully at the beginning of the form reported owing an extra \$1.59 million in rebates during the three-month experiment than vendors who signed the old forms at the bottom.

Now the Obama administration is urging agencies to use behavioral science to perform similar experiments.

"The goal is to help people who want to take a given step but may face some barriers," said Maya Shankar, who leads the new team. "You can do everything to make sure that a program is well-designed, but if it's not getting into the hands of people who are supposed to be benefiting from it, everything up to that point was for naught."

Much of behavioral science is based on common sense -- people are more influenced by the last thing they hear, tend to fear losses, are a little lazy and like completing simple tasks better -- said University of Chicago economist Richard Thaler, one of the founders of behavioral economics.

Because of this, Thaler said he believes the plan could result in widespread improvements in federal policies.

"They've been more worried about making sure it's legally perfect than making sure it's understandable to anybody," he said. "So there's a lot of room to simplify things" (Binyamin Appelbaum, New York Times, Sept. 29). -- **AW**

DRINKING WATER:

Lead levels spike in Mich. kids after tap source changes

Published: Wednesday, September 30, 2015

Doctors in Flint, Mich., are finding high levels of lead in children in town one year after the municipality changed its water source.

Unable to agree on a short-term supply contract with Detroit in April 2014, Flint began pumping water from the Flint River, which state officials assured the city would be safe.

But lead levels in children under 5 years old nearly doubled since the swap, from 2.1 percent to 4 percent, according to Mona Hanna-Attisha of the Hurley Medical Center, who has studied lead levels in hundreds of Flint children.

"My research shows that lead levels have gone up," she said. "I cannot say it's from the water. But that's, you know, the thing that has changed."

After Hanna-Attisha's report was published, researches from Virginia Polytechnic Institute and State University found that Flint River water is very corrosive and picks up lead that it comes into contact with in service lines and household pipes.

City officials, who have issued a water advisory to residents, say they are putting together an anti-corrosion plan. But Marc Edwards, who led the Virginia Tech team, said such a strategy should have already been in place. "Flint is the only city in America that I'm aware of that does not have a corrosion plan," he said.

Drawing water from the Flint River was only meant as a temporary solution while officials wait for a new system to draw water from Lake Huron to come online next year. Now city officials are thinking about returning to Detroit's water system.

"As a father, I want every family and household in the city of Flint to be safe and secure," Mayor Dayne Walling said (Sarah Hulett, [NPR](#), Sept. 29). -- **AW**

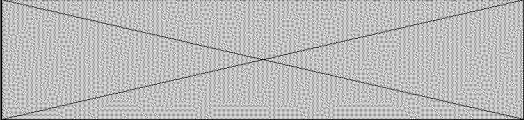

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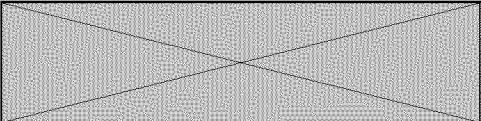

N.D. governor discusses two-track approach on power plan, shale oil's prospects amid price shift

Published: Wednesday, September 30, 2015

With a 45 percent emissions rate reduction in the final Clean Power Plan, what are North Dakota's plans for complying as it manages a power sector that runs primarily on coal? During today's OnPoint, North Dakota Gov. Jack Dalrymple (R) discusses his state's compliance and litigation plans for the Clean Power Plan. He also talks about the challenges facing his state's shale oil industry following the rapid decline of oil prices.

[Click here](#) to watch today's OnPoint.

	
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To: Garbow, Avi[Garbow.Avi@epa.gov]; Wehling, Carrie[Wehling.Carrie@epa.gov]; Darman, Leslie[Darman.Leslie@epa.gov]
From: Neugeboren, Steven
Sent: Thur 10/1/2015 2:59:03 PM
Subject: FW: FYI: New Commentary posted at <http://flintwaterstudy.org/>

Bert forwarding some info.

From: Frey, Bert
Sent: Thursday, October 01, 2015 8:41 AM
To: Neugeboren, Steven
Subject: Fwd: FYI: New Commentary posted at <http://flintwaterstudy.org/>

FYI

Sent from my iPhone

Begin forwarded message:

From: "Glowacki, Joanna" <glowacki.joanna@epa.gov>
Date: September 30, 2015 at 2:50:02 PM CDT
To: "Frey, Bert" <frey.bertram@epa.gov>, "Lupton, Jane" <lupton.jane@epa.gov>, "Lee, Sandra" <lee.sandra@epa.gov>
Subject: FW: FYI: New Commentary posted at <http://flintwaterstudy.org/>

FYI

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

Chicago, Illinois 60604

312-353-3757

312-385-5464 fax

From: Shoven, Heather

Sent: Wednesday, September 30, 2015 2:45 PM

To: Poy, Thomas; Damato, Nicholas; Bair, Rita; Deltoral, Miguel; Porter, Andrea; Crooks, Jennifer; Glowacki, Joanna; Kempic, Jeffrey; Darman, Leslie; King, Carol; Moriarty, Edward; Lopez-Carbo, Maria; Viveiros, Edward; Banks, Victoria

Subject: FYI: New Commentary posted at <http://flintwaterstudy.org/>

<http://flintwaterstudy.org/>

I have pasted the commentary below.

COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis

September 30, 2015September 30, 2015 [Siddhartha Roy Articles](#)

Primary Author: Dr. Marc Edwards

Acknowledgements: Curt Guyette, LeeAnne Walters, Melissa Mays, Siddhartha Roy

As results of [our collaborative research with Flint residents](#) exposed widespread problems with elevated levels of lead in Flint's water, the Michigan Department of Environmental Quality (MDEQ) repeatedly attempted to discredit our findings and downplay the public health threat. For example, MDEQ's Communications Director Brad Wurfel wrote to The Flint Journal's Ronald Fonger:

"...the state DEQ is just as perplexed by Edwards' results as he seems to be by the City's test results. When I said we were

unsure how the Virginia Tech team got its results, that's not the same as being surprised that they got them. ...this group specializes in looking for high lead problems. They pull that rabbit out of that hat everywhere they go. Nobody should be surprised when the rabbit comes out of the hat, even if they can't figure out how it is done.....while the state appreciates academic participation in this discussion, offering broad, dire public health advice based on some quick testing could be seen as fanning political flames irresponsibly. Residents of Flint concerned about the health of their community don't need more of that."

Now that [Dr. Mona Hanna-Attisha](#) and Hurley Medical Center researchers have revealed that [the rising levels of lead in Flint water have been associated with increased blood lead of Flint's children](#), our early health advice has been vindicated by most accounts. But [MDEQ still dismisses the water controversy as "near-hysteria,"](#) and characterizes the Hurley study conclusions as *"unfortunate"* if not quite *"irresponsible."*

Given MDEQ's insistence that there is absolutely nothing wrong with Flint water, we have created a timeline that illustrates how MDEQ's mistakes and deception created the Flint Water Crisis in the first place. Our analysis relies on e-mails and documents obtained through Freedom of Information Act (FOIA) requests by the American Civil Liberties Union-Michigan (ACLU of Michigan) and [FlintWaterStudy.org](#).

All FOIA documents are provided at the end of this article for review.

Phase 1. MDEQ Fails to Require Corrosion Control for Flint River Water (April 2014)

Effective July 1998, the federal Lead and Copper Rule (LCR) has required that all large public water systems maintain a program to control levels of lead in drinking water from corrosion. Moreover, the law also requires the City of Flint to have a state approved

plan, with enforceable regulatory limits for “Water Quality Parameters” including pH, alkalinity and/or corrosion inhibitor dose measured in the water distribution system.

MDEQ never required Flint to have a corrosion control program, nor did it set water quality parameters for the new Flint River source water. While MDEQ asserts that they are acting proactively to get a corrosion control program in Flint, there is no provision in the LCR that allows for corrosion control to ever be interrupted.

As a direct result of this mistake, Flint residents have been completely unprotected from elevated lead in water from the moment the switch to Flint River water was made. This has created a conflict of interest for MDEQ ever since. Specifically, MDEQ’s failure to require a corrosion control program is what created the Flint water crisis in the first place—they now have a vested interest in covering up the problem.

Phase 2. MDEQ misinforms the USEPA about Flint’s Corrosion Control (February-March 2015)

Even if we assume MDEQ was confused about its obligations under the LCR, when problems with high lead started to crop up in February 2015, they should have quickly acted to correct the mistake. Samples with high lead were reported at the University of Michigan-Flint Campus, and on February 26, 2015 Mike Glasgow (City of Flint) did excellent detective work discovering high lead (over 100 ppb) in water samples from Flint resident Lee-Anne Walters’ home.

Ms. Walters immediately forwarded her results to representatives of USEPA Region 5, who in turn immediately forwarded the results to Stephen Busch and Mike Prysby (MDEQ) with the subject line **“HIGH LEAD: FLINT Water testing Results”** The EPA e-mail correctly informed MDEQ that Ms. Walters’ high lead was likely due to **“... the different chemistry water...leaching out contaminants from the insides of...the pipes.”** But MDEQ denied to EPA that that Flint had a lead in water problem.

At that point, EPA Region 5 lead-in-water expert Miguel Del Toral asked MDEQ a question through another EPA employee:

“Miguel was wondering if Flint is feeding Phosphates. Flint must have Optimal Corrosion Control Treatment-is it Phosphates?”

On February 27th, 2015, MDEQ’s Stephen Busch unequivocally and falsely responded to EPA that:

“The City of Flint...Has an Optimized Corrosion Control Program <and> Conducts quarterly Water Quality Parameter monitoring at 25 sites and has not had any unusual results.”

Reassured by MDEQ’s false statement, Del Toral ended USEPA’s February conversation with MDEQ by stating:

“If I remember correctly, Detroit is feeding PO4 for the LCR, but since Flint is no longer part of that interconnection, I was wondering what their <Optimal Corrosion Control> was. They are required to have <Optimal Corrosion Control> in place which is why I was asking what they were using.”

On March 18, 2015, Lee-Anne Walters’ home was retested after flushing her system thoroughly. This time the test result came back even worse with 397 ppb lead— almost 40 times higher than the World Health Organization 10 ppb safety threshold. EPA Region 5 forwarded the results to MDEQ, with a query ***“Any thoughts on how to respond to her? I’m running out of ideas.”***

MDEQ’s response, delivered in a voicemail to Del Toral on March 19, 2015, stated that ***MDEQ had investigated and found Ms. Walters’ high lead was due to lead sources in her plumbing.*** On March 27, 2015, Walters’ son, who had been having health problems, was tested for lead in his blood. The blood lead results came back high— well over the 5 ug/dL CDC threshold of concern.

Phase 3. Walters and Del Toral Investigate the Veracity of

MDEQ Statements (April to June 2015)

With good reason, Lee-Anne Walters did not accept the MDEQ's explanation to Del Toral for the high lead in her water. The internal plumbing had been stolen from the house before it was purchased, and they had installed new (lead free) plastic plumbing before moving in.

Walters also checked up on the MDEQ statement that Flint had "an Optimized Corrosion Control Program." She called the City of Flint, and city officials correctly informed her that there was no program at all.

Walters then passed this alarming information along to EPA's Del Toral, who on April 23rd e-mailed MDEQ, and again asked what corrosion control program Flint was using. It was only then that MDEQ finally acknowledged that there was NO program. Concerned due to the very high occurrence of lead service lines (LSLs) in Flint, on April 27th Del Toral wrote an EPA Region 5 internal e-mail stating:

"Flint has not been operating any corrosion control treatment, which is very concerning given the likelihood of LSLs in the City."

That night Del Toral also stopped at Walters' house on a trip north, and personally inspected her plumbing first hand. He confirmed it was plastic and lead-free. Del Toral also dropped off sample bottles at the Walters' home, and told her that if she wanted an analysis to contact Professor Marc Edwards (the author of this article and Principal Investigator of FlintWaterStudy.org) at Virginia Tech.

The next morning Edwards talked Walters through an intensive 30 bottle sampling protocol. When the bottles were returned to Virginia Tech and analyzed, Edwards and his senior research scientist Dr. Jeff Parks were stunned by the results. The average lead in was 2,429 ppb lead, the high was 13,200 ppb, and even

after 25 minutes flushing the water never dropped below 200 ppb. After Walters told Del Toral about the high lead results, he drove back to Flint, just in time to observe the City replacing the service line to Walters' home. He personally collected a sample of the pipe and verified it to be pure lead.

In a follow-up memo dated June 24, 2015, which was sent to both Walters and Edwards, Del Toral outlined numerous concerns about the situation regarding the serious lead corrosion problem in Flint. *He included a clear recommendation that the USEPA investigate whether the City of Flint was in compliance with federal laws for lead corrosion control.*

Phase 4. MDEQ "Handles" the LCR Report, ACLU-Michigan, Virginia Tech and Miguel Del Toral (July to August 2015)

> **"Revising" the Original LCR Report.** In spite of all the problems documented with lead in Flint water from February to June 2015, Flint and MDEQ took a lackadaisical approach to the federally required LCR sampling program. Specifically, just 5 days before the June 30th deadline to collect the 100 samples that MDEQ required, the City had only collected 39 samples.

Adam Rosenthal (MDEQ) e-mailed Mike Glasgow at the City of Flint:

"We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results, Flint's 90th percentile is over the AL for lead."

In the next five days the City collected 30 samples, all of which were below the action level, and did not reach the 100 sample target. If all 71 submitted samples had been considered valid, the City would have exceeded the 15 ppb action level. *Federal law would then require that Flint residents be provided information about how to protect themselves and their children from lead in water. MDEQ's failure to install corrosion control would have been*

flagged as an obvious mistake. But none of that happened.

Instead, the MDEQ “revised” the City’s original LCR report, invalidating two high lead results, so that the 90thile was under the 15 ppb action level. The validity of samples showing low lead in the City’s sampling was never questioned. This is a problem, because the City has now admitted that they do not know which homes had lead pipe, even though it is stated in writing in the report that all sampled homes had lead pipe. By law, at least 50 percent of the homes sampled must be verified to have lead pipe, and the remainder of homes sampled must have been built before 1986 and known to have lead solder. There is no basis for believing that this requirement was met in either the 2014 or 2015 LCR sampling events conducted by the City. Hence, the City of Flint has not had a valid LCR sampling event since the switch to Flint River water.

MDEQ then lowered the minimum number of required samples from 100 to 60, making it look like the City of Flint had met the target. MDEQ also did not question the City’s open acknowledgement that homes from 2014 had not been re-sampled, or that high risk (Tier 1) sites were not used. The original report, due July 10th, was also late by several weeks. All of these violations of federal law were glossed over, to make it appear that the City had passed its lead testing with flying colors. Just like that, according to MDEQ at least, the City of Flint had no LCR violations at all.

> **ACLU-Michigan FOIA.** The timing by which the “revised” LCR report was created, is also of interest. On July 22, 2015, the ACLU-Michigan submitted a FOIA to MDEQ, requesting the City of Flint’s LCR report supposedly due on July 10, 2015. The City’s original LCR report with all the obvious problems is dated July 28, 2015. MDEQ never provided the ACLU-Michigan with the original LCR report. Instead, they created the scrubbed revised report, on August 20, 2015, and sent that report to ALCU-Michigan (from the City of Flint) the next day. In the comments section of the report, Flint openly states ***“Revised report after conference call with***

DEQ staff. Two samples were removed from list for not meeting sample criteria, and due to population the number of samples was reduced to 60.”

> MDEQ to FlintWaterStudy.org FOIA: What conference call?

On September 9, 2015, Virginia Tech submitted a FOIA to MDEQ explicitly requesting records and minutes of the conference call between DEQ staff and Flint cited in the revised LCR report. This FOIA request has been denied by MDEQ, because ***“Your request does not include the date/time of the conference call and who from the Department of Environmental Quality participated on the conference call.”*** FlintWaterStudy.org immediately appealed the withholding of documents related to the conference call to the State of Michigan. On September 28th, our appeal was denied. We may commence a civil action if we do not agree with the decision.

> Handling Miguel Del Toral. MDEQ obviously had a major problem on its hands with EPA’s lead-in-water expert Miguel Del Toral. On August 4th 2015, Lee-Anne Walters and Melissa Mays met with MDEQ officials to discuss Flint’s lead in water problems. The MDEQ officials participating in the meeting were identified by Mays and Walters, as Liane Shekter-Smith (Chief of the Office of Drinking Water and Municipal Assistance), Stephen Busch and Brad Wurfel.

According to Walters and Mays, Shekter-Smith bragged that ***“Mr. Del Toral has been handled,”*** and that Flint residents would not be hearing from him again. Moreover, MDEQ asserted that Mr. Del Toral’s interim memo detailing the many problems with Flint’s (non-existent) corrosion control program ***“would never be finalized.”*** Just yesterday, [NPR released a slightly different](#), but enlightening version of Wurfel’s take on Del Toral and the memo:

MDEQ spokesman Brad Wurfel says the report was the work of a “rogue employee,” and promised the final report — not yet released — would tell a much different story.

Mays and Walters vividly recall Wurfel, smirking or laughing,

whenever they expressed concern about elevated lead in Flint's water. Looking back on the exchange yesterday, Mays stated ***"It is shocking how their refusal to admit they made a mistake, trumped the dangers their actions pose to Flint's children."***

Angered, Lee-Anne Walters then called Edwards, and informed him that Del Toral would no longer be working on Flint water issues, and the two discussed the clear implication that EPA bureaucrats had intervened to prevent Del Toral from further exposing MDEQ's numerous blunders and the health threat to Flint residents. She further stated that ***"It is too late for my son, but I will not stand by and let this happen to another other innocent child in Flint."***

Clearly, the MDEQ, City of Flint and even the USEPA (with the obvious exception of Del Toral) have proved themselves unworthy of the public trust. Flint residents have been left to fend for themselves, when it comes to dealing with the dangers of high lead in their water.

FlintWaterStudy was launched an hour after the phone call from Ms. Walters, to help the citizens of Flint deal with the lead-in-water crisis that MDEQ created, and to correct any false statements by uncaring agencies that have left Flint's children in harm's way.

FOIA Documents:

Emails between MDEQ, USEPA, and Ms. LeeAnne Walters:

[Download \(PDF, 169KB\)](#)

Original LCR Report from City of Flint to MDEQ:

[Download \(PDF, 94KB\)](#)

Revised LCR Report from City of Flint to MDEQ:

[Download \(PDF, 357KB\)](#)

[FlintWaterStudy.org's FOIA Appeal Denied:](#)

[Download \(PDF, 15KB\)](#)

To: Garbow, Avi[Garbow.Avi@epa.gov]; Wehling, Carrie[Wehling.Carrie@epa.gov]; Darman, Leslie[Darman.Leslie@epa.gov]
Cc: Mitchell, Stacey[Mitchell.Stacey@epa.gov]
From: Neugeboren, Steven
Sent: Thur 10/1/2015 3:04:53 PM
Subject: FW: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

The third, which includes some of the public discourse.

From: Frey, Bert
Sent: Thursday, October 01, 2015 9:39 AM
To: Neugeboren, Steven
Subject: FW: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

More on Flint.

From: Glowacki, Joanna
Sent: Thursday, October 01, 2015 8:37 AM
To: Frey, Bert
Cc: Lee, Sandra; Lupton, Jane
Subject: FW: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

fyi

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

Chicago, Illinois 60604

312-353-3757

312-385-5464 fax

From: Shoven, Heather

Sent: Wednesday, September 30, 2015 7:31 AM

To: Damato, Nicholas; Bair, Rita; Poy, Thomas; Porter, Andrea; Crooks, Jennifer; King, Carol; Darman, Leslie; Glowacki, Joanna

Cc: Deltoral, Miguel

Subject: FYI from Marc Edwards: WHAT ARE YOU GUYS DOING DOWN THERE?

From: Marc Edwards [<mailto:edwardsm@vt.edu>]

Sent: Tuesday, September 29, 2015 10:34 PM

To: Schock, Michael; Lytle, Darren; Burneson, Eric; demarco.carol@epa.gov; Murphy, Thomas; Shoven, Heather; Deltoral, Miguel

Subject: WHAT ARE YOU GUYS DOING DOWN THERE?

Wurfel says to NPR you have to poison kids for a year before implementing corrosion control, and to determine the right orthophosphate dose?

Eric, is this going to be part of the new improved LCR? And is EPA going to hand Miguel's draft memo to Wurfel, to finalize and/or approve? Wurfel PROMISES THAT the final memo is going to tell a different story. And Miguel is now a ROGUE EPA employee?

EPA Office of Water and EPA Region 5 are a national embarrassment. You have a city in crisis, kids with elevated blood lead, and NO CORROSION CONTROL PLAN FOR 16 MONTHS, and yet you sit there and do absolutely nothing.

Marc

<http://www.npr.org/2015/09/29/444497051/high-lead-levels-in-michigan-kids-after-city-switches-water-source>

A [draft report from the EPA](#) that was obtained by the ACLU of Michigan also takes the city and state to task.

"Prior to April 30, 2014, the City of Flint purchased finished water from the City of Detroit which contained orthophosphate, a treatment chemical used to control lead and copper levels in the drinking water," the report read, adding that the treatment was discontinued after the switch to Flint River water.

"In accordance with the Lead and Copper Rule (LCR), all large systems ... are required to install and

maintain corrosion control treatment for lead and copper. In the absence of any corrosion control treatment, lead levels in drinking water can be expected to increase," the report continued.

A Solution May Be Near

But officials with the Michigan Department of Environmental Quality dispute the findings of the draft report. MDEQ spokesman Brad Wurfel says the report was the work of a "rogue employee," and promised the final report — not yet released — would tell a much different story.

"You have to have to do a full year of studying" the water chemistry as it behaves across the system before implementing corrosion control, Wurfel says, adding that's the only way to know how much phosphate to add to the water.

To: Crooks, Jennifer[crooks.jennifer@epa.gov]
Cc: Shoven, Heather[shoven.heather@epa.gov]; Porter, Andrea[porters.andrea@epa.gov]; Philip, Kris (DEQ)[PHILIPK@michigan.gov]
From: Donaldson, Kristina (DEQ)
Sent: Thur 10/1/2015 3:25:22 PM
Subject: RE: Detroit data in SDWIS

Hi Jennifer,

You are correct that there is an error. Detroit did install corrosion control in the 1990s, it was demonstrated as optimized and in 1999 we established water quality parameters for the city.

We plan to review the SDWIS entries and make corrections as needed before the next data submission.

Thanks!

Kris Donaldson, P.E.

District Supervisor

Office of Drinking Water & Municipal Assistance

Michigan Department of Environmental Quality

27700 Donald Court

Warren, MI 48092

ph. 586-753-3759

fax. 586-753-3831

From: Crooks, Jennifer [mailto:crooks.jennifer@epa.gov]
Sent: Tuesday, September 29, 2015 3:20 PM
To: Donaldson, Kristina (DEQ)

Cc: Shoven, Heather; Porter, Andrea; Philip, Kris (DEQ)
Subject: Detroit data in SDWIS

Hi, Kris. We were looking at Detroit data in SDWIS this morning, and I'm not sure about some data—see below. Under “Event Milestone Description”, it says about Detroit “System deemed optimized without Optimal Corrosion Control Treatment (OCCT)”, and the reason was “B3”, which is Michigan rule 604f(2)(b)(iii). But I thought that Detroit did exceed the PQL (5ppb) back in the early 90's and that the City did install CCT, so it can't be a B3. Detroit used the Modified Consecutive System approach in the early 90's to collect data from all the sampling at consecutive systems, so it could evaluate the water as a single system. So, I think the above 2 data entries (seen below) are incorrect?

Thank you, Kris.

Jennifer

From: Porter, Andrea
Sent: Tuesday, September 29, 2015 12:34 PM
To: Crooks, Jennifer
Subject: FW: flint --> lcr milestone data in sdwis/fed (no info for flint; deem for detroit)

fyi

PWSID	NAME	EVENT DATE	EVENT DATE	REASON	REASON	REASON
DETROIT	6/30/1999	5/19/2004	DEEM	System deemed optimized	B3	Serving greater than 50,000: met action
MI000180411						
OF						

without
OCCT

levels

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

To: Neugeboren, Steven[Neugeboren.Steven@epa.gov]
Cc: Wehling, Carrie[Wehling.Carrie@epa.gov]
From: Darman, Leslie
Sent: Thur 10/1/2015 3:25:40 PM
Subject: FW: michigan radio story link --> asks about interpretation of lcr on occt req w/ source change

Steve – in the email below is a link to a story from Michigan Public Radio on the Flint matter that raises the question about EPA’s interpretation of the regulations. An embedded link to another article has helpful background info and it’s short.

Leslie Darman

Office of General Counsel

Water Law Office

202-564-5452

From: Shoven, Heather
Sent: Thursday, October 01, 2015 9:37 AM
To: Moriarty, Edward; Lopez-Carbo, Maria; Glowacki, Joanna; Darman, Leslie; Kempic, Jeffrey; Viveiros, Edward; Banks, Victoria
Subject: FW: michigan radio story link --> asks about interpretation of lcr on occt req w/ source change

From: Porter, Andrea
Sent: Thursday, October 01, 2015 8:30 AM
To: Shoven, Heather; Crooks, Jennifer; Deltoral, Miguel; M
Cc: Damato, Nicholas; Poy, Thomas; Bair, Rita
Subject: michigan radio story link --> asks about interpretation of lcr on occt req w/ source change

Hi All,

A story on the Michigan Radio site specifically questions the correct interpretation of LCR requirement to maintain OCCT.

Here's an excerpt (the whole article is worth reading – <http://michiganradio.org/post/flint-mayor-state-approve-plan-fast-humanly-possible-help-keep-lead-out-water>):

“The U.S. Environmental Protection Agency has not yet answered this question: Was Flint required to have some form of corrosion-control treatment the whole time? At face value, the EPA rules are clear, all water systems that serve more than 50,000 people must have some kind of corrosion control. But when you switch water sources, there is apparently some room for interpretation.”

It goes on to quote from the Preamble to the LCR-STR.

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

To: Garbow, Avi[Garbow.Avi@epa.gov]; Wehling, Carrie[Wehling.Carrie@epa.gov]; Darman, Leslie[Darman.Leslie@epa.gov]; Mitchell, Stacey[Mitchell.Stacey@epa.gov]
From: Neugeboren, Steven
Sent: Thur 10/1/2015 3:27:00 PM
Subject: Fwd: FYI: New Commentary posted at <http://flintwaterstudy.org/>

Fyi

Sent from my iPhone
Steven Neugeboren
Associate General Counsel
United States Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington DC. 20460
202-564-5488

Begin forwarded message:

From: "Frey, Bert" <frej.bertram@epa.gov>
Date: October 1, 2015 at 8:40:49 AM EDT
To: "Neugeboren, Steven" <Neugeboren.Steven@epa.gov>
Subject: Fwd: FYI: New Commentary posted at <http://flintwaterstudy.org/>

FYI

Sent from my iPhone

Begin forwarded message:

From: "Glowacki, Joanna" <glowacki.joanna@epa.gov>
Date: September 30, 2015 at 2:50:02 PM CDT
To: "Frey, Bert" <frej.bertram@epa.gov>, "Lupton, Jane" <lupton.jane@epa.gov>, "Lee, Sandra" <lee.sandra@epa.gov>
Subject: FW: FYI: New Commentary posted at <http://flintwaterstudy.org/>

FYI

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

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From: Shoven, Heather

Sent: Wednesday, September 30, 2015 2:45 PM

To: Poy, Thomas; Damato, Nicholas; Bair, Rita; Deltoral, Miguel; Porter, Andrea; Crooks, Jennifer; Glowacki, Joanna; Kempic, Jeffrey; Darman, Leslie; King, Carol; Moriarty, Edward; Lopez-Carbo, Maria; Viveiros, Edward; Banks, Victoria

Subject: FYI: New Commentary posted at <http://flintwaterstudy.org/>

<http://flintwaterstudy.org/>

I have pasted the commentary below.

COMMENTARY: MDEQ Mistakes and Deception Created the Flint Water Crisis

[September 30, 2015](#) [September 30, 2015](#) [Siddhartha Roy Articles](#)

Primary Author: Dr. Marc Edwards

Acknowledgements: Curt Guyette, LeeAnne Walters, Melissa Mays, Siddhartha Roy

As results of our collaborative research with Flint residents exposed widespread problems with elevated levels of lead in Flint's water, the Michigan Department of Environmental Quality (MDEQ) repeatedly attempted to discredit our findings and downplay the public health threat. For example, MDEQ's Communications Director Brad Wurfel wrote to The Flint Journal's Ronald Fonger:

"...the state DEQ is just as perplexed by Edwards' results as he seems to be by the City's test results. When I said we were unsure how the Virginia Tech team got its results, that's not the same as being surprised that they got them. ...this group specializes in looking for high lead problems. They pull that rabbit out of that hat everywhere they go. Nobody should be surprised when the rabbit comes out of the hat, even if they can't figure out how it is done.....while the state appreciates academic participation in this discussion, offering broad, dire public health advice based on some quick testing could be seen as fanning political flames irresponsibly. Residents of Flint concerned about the health of their community don't need more of that."

Now that Dr. Mona Hanna-Attisha and Hurley Medical Center researchers have revealed that the rising levels of lead in Flint water have been associated with increased blood lead of Flint's children, our early health advice has been vindicated by most accounts. But MDEQ still dismisses the water controversy as "near-hysteria," and characterizes the Hurley study conclusions as **"unfortunate"** if not quite **"irresponsible."**

Given MDEQ's insistence that there is absolutely nothing wrong with Flint water, we have created a timeline that illustrates how MDEQ's mistakes and deception created the Flint Water Crisis in the first place. Our analysis relies on e-mails and documents obtained through Freedom of Information Act (FOIA) requests by the American Civil Liberties Union-

Michigan (ACLU of Michigan) and FlintWaterStudy.org.

All FOIA documents are provided at the end of this article for review.

Phase 1. MDEQ Fails to Require Corrosion Control for Flint River Water (April 2014)

Effective July 1998, the federal Lead and Copper Rule (LCR) has required that all large public water systems maintain a program to control levels of lead in drinking water from corrosion. Moreover, the law also requires the City of Flint to have a state approved plan, with enforceable regulatory limits for “Water Quality Parameters” including pH, alkalinity and/or corrosion inhibitor dose measured in the water distribution system.

MDEQ never required Flint to have a corrosion control program, nor did it set water quality parameters for the new Flint River source water. While MDEQ asserts that they are acting proactively to get a corrosion control program in Flint, there is no provision in the LCR that allows for corrosion control to ever be interrupted.

As a direct result of this mistake, Flint residents have been completely unprotected from elevated lead in water from the moment the switch to Flint River water was made. This has created a conflict of interest for MDEQ ever since. Specifically, MDEQ’s failure to require a corrosion control program is what created the Flint water crisis in the first place—they now have a vested interest in covering up the problem.

Phase 2. MDEQ misinforms the USEPA about Flint’s Corrosion Control (February-March 2015)

Even if we assume MDEQ was confused about its obligations under the LCR, when problems with high lead started to crop up in February 2015, they should have quickly acted to correct

the mistake. Samples with high lead were reported at the University of Michigan-Flint Campus, and on February 26, 2015 Mike Glasgow (City of Flint) did excellent detective work discovering high lead (over 100 ppb) in water samples from Flint resident Lee-Anne Walters' home.

Ms. Walters immediately forwarded her results to representatives of USEPA Region 5, who in turn immediately forwarded the results to Stephen Busch and Mike Prysby (MDEQ) with the subject line **"HIGH LEAD: FLINT Water testing Results"** The EPA e-mail correctly informed MDEQ that Ms. Walters' high lead was likely due to **"... the different chemistry water...leaching out contaminants from the insides of...the pipes."** But MDEQ denied to EPA that that Flint had a lead in water problem.

At that point, EPA Region 5 lead-in-water expert Miguel Del Toral asked MDEQ a question through another EPA employee:

"Miguel was wondering if Flint is feeding Phosphates. Flint must have Optimal Corrosion Control Treatment-is it Phosphates?"

On February 27th, 2015, MDEQ's Stephen Busch unequivocally and falsely responded to EPA that:

"The City of Flint...Has an Optimized Corrosion Control Program <and> Conducts quarterly Water Quality Parameter monitoring at 25 sites and has not had any unusual results."

Reassured by MDEQ's false statement, Del Toral ended USEPA's February conversation with MDEQ by stating:

"If I remember correctly, Detroit is feeding PO4 for the LCR, but since Flint is no longer part of that interconnection, I was wondering what their <Optimal Corrosion Control> was. They are required to have

<Optimal Corrosion Control> in place which is why I was asking what they were using.”

On March 18, 2015, Lee-Anne Walters’ home was retested after flushing her system thoroughly. This time the test result came back even worse with 397 ppb lead– almost 40 times higher than the World Health Organization 10 ppb safety threshold. EPA Region 5 forwarded the results to MDEQ, with a query **“Any thoughts on how to respond to her? I’m running out of ideas.”**

MDEQ’s response, delivered in a voicemail to Del Toral on March 19, 2015, stated that **MDEQ had investigated and found Ms. Walters’ high lead was due to lead sources in her plumbing.** On March 27, 2015, Walters’ son, who had been having health problems, was tested for lead in his blood. The blood lead results came back high– well over the 5 ug/dL CDC threshold of concern.

Phase 3. Walters and Del Toral Investigate the Veracity of MDEQ Statements (April to June 2015)

With good reason, Lee-Anne Walters did not accept the MDEQ’s explanation to Del Toral for the high lead in her water. The internal plumbing had been stolen from the house before it was purchased, and they had installed new (lead free) plastic plumbing before moving in.

Walters also checked up on the MDEQ statement that Flint had “an Optimized Corrosion Control Program.” She called the City of Flint, and city officials correctly informed her that there was no program at all.

Walters then passed this alarming information along to EPA’s Del Toral, who on April 23rd e-mailed MDEQ, and again asked what corrosion control program Flint was using. It was only then that MDEQ finally acknowledged that there was NO program. Concerned due to the very high occurrence of lead

service lines (LSLs) in Flint, on April 27th Del Toral wrote an EPA Region 5 internal e-mail stating:

“Flint has not been operating any corrosion control treatment, which is very concerning given the likelihood of LSLs in the City.”

That night Del Toral also stopped at Walters’ house on a trip north, and personally inspected her plumbing first hand. He confirmed it was plastic and lead-free. Del Toral also dropped off sample bottles at the Walters’ home, and told her that if she wanted an analysis to contact Professor Marc Edwards (the author of this article and Principal Investigator of FlintWaterStudy.org) at Virginia Tech.

The next morning Edwards talked Walters through an intensive 30 bottle sampling protocol. When the bottles were returned to Virginia Tech and analyzed, Edwards and his senior research scientist Dr. Jeff Parks were stunned by the results. The average lead in was 2,429 ppb lead, the high was 13,200 ppb, and even after 25 minutes flushing the water never dropped below 200 ppb. After Walters told Del Toral about the high lead results, he drove back to Flint, just in time to observe the City replacing the service line to Walters’ home. He personally collected a sample of the pipe and verified it to be pure lead.

In a follow-up memo dated June 24, 2015, which was sent to both Walters and Edwards, Del Toral outlined numerous concerns about the situation regarding the serious lead corrosion problem in Flint. *He included a clear recommendation that the USEPA investigate whether the City of Flint was in compliance with federal laws for lead corrosion control.*

Phase 4. MDEQ “Handles” the LCR Report, ACLU-Michigan, Virginia Tech and Miguel Del Toral (July to August 2015)

> **“Revising” the Original LCR Report.** In spite of all the problems documented with lead in Flint water from February to June 2015, Flint and MDEQ took a lackadaisical approach to the federally required LCR sampling program. Specifically, just 5 days before the June 30th deadline to collect the 100 samples that MDEQ required, the City had only collected 39 samples.

Adam Rosenthal (MDEQ) e-mailed Mike Glasgow at the City of Flint:

“We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results, Flint’s 90th percentile is over the AL for lead.”

In the next five days the City collected 30 samples, all of which were below the action level, and did not reach the 100 sample target. If all 71 submitted samples had been considered valid, the City would have exceeded the 15 ppb action level. *Federal law would then require that Flint residents be provided information about how to protect themselves and their children from lead in water. MDEQ’s failure to install corrosion control would have been flagged as an obvious mistake. But none of that happened.*

Instead, the MDEQ “revised” the City’s original LCR report, invalidating two high lead results, so that the 90th percentile was under the 15 ppb action level. The validity of samples showing low lead in the City’s sampling was never questioned. This is a problem, because the City has now admitted that they do not know which homes had lead pipe, even though it is stated in writing in the report that all sampled homes had lead pipe. By law, at least 50 percent of the homes sampled must be verified to have lead pipe, and the remainder of homes sampled must have been built before 1986 and known to have lead solder. There is no basis for believing that this requirement was met in either the 2014 or 2015 LCR sampling events conducted by the City. Hence, the City of Flint has not had a valid LCR

sampling event since the switch to Flint River water.

MDEQ then lowered the minimum number of required samples from 100 to 60, making it look like the City of Flint had met the target. MDEQ also did not question the City's open acknowledgement that homes from 2014 had not been re-sampled, or that high risk (Tier 1) sites were not used. The original report, due July 10th, was also late by several weeks. All of these violations of federal law were glossed over, to make it appear that the City had passed its lead testing with flying colors. Just like that, according to MDEQ at least, the City of Flint had no LCR violations at all.

> **ACLU-Michigan FOIA.** The timing by which the "revised" LCR report was created, is also of interest. On July 22, 2015, the ACLU-Michigan submitted a FOIA to MDEQ, requesting the City of Flint's LCR report supposedly due on July 10, 2015. The City's original LCR report with all the obvious problems is dated July 28, 2015. MDEQ never provided the ACLU-Michigan with the original LCR report. Instead, they created the scrubbed revised report, on August 20, 2015, and sent that report to ALCU-Michigan (from the City of Flint) the next day. In the comments section of the report, Flint openly states *"Revised report after conference call with DEQ staff. Two samples were removed from list for not meeting sample criteria, and due to population the number of samples was reduced to 60."*

> **MDEQ to FlintWaterStudy.org FOIA: What conference call?** On September 9, 2015, Virginia Tech submitted a FOIA to MDEQ explicitly requesting records and minutes of the conference call between DEQ staff and Flint cited in the revised LCR report. This FOIA request has been denied by MDEQ, because *"Your request does not include the date/time of the conference call and who from the Department of Environmental Quality participated on the conference call."* FlintWaterStudy.org immediately appealed the withholding of documents related to the conference call to

the State of Michigan. On September 28th, our appeal was denied. We may commence a civil action if we do not agree with the decision.

> **Handling Miguel Del Toral.** MDEQ obviously had a major problem on its hands with EPA's lead-in-water expert Miguel Del Toral. On August 4th 2015, Lee-Anne Walters and Melissa Mays met with MDEQ officials to discuss Flint's lead in water problems. The MDEQ officials participating in the meeting were identified by Mays and Walters, as Liane Shekter-Smith (Chief of the Office of Drinking Water and Municipal Assistance), Stephen Busch and Brad Wurfel.

According to Walters and Mays, Shekter-Smith bragged that ***"Mr. Del Toral has been handled,"*** and that Flint residents would not be hearing from him again. Moreover, MDEQ asserted that Mr. Del Toral's interim memo detailing the many problems with Flint's (non-existent) corrosion control program ***"would never be finalized."*** Just yesterday, NPR released a slightly different, but enlightening version of Wurfel's take on Del Toral and the memo:

MDEQ spokesman Brad Wurfel says the report was the work of a "rogue employee," and promised the final report — not yet released — would tell a much different story.

Mays and Walters vividly recall Wurfel, smirking or laughing, whenever they expressed concern about elevated lead in Flint's water. Looking back on the exchange yesterday, Mays stated ***"It is shocking how their refusal to admit they made a mistake, trumped the dangers their actions pose to Flint's children."***

Angered, Lee-Anne Walters then called Edwards, and informed him that Del Toral would no longer be working on Flint water issues, and the two discussed the clear implication that EPA bureaucrats had intervened to prevent Del Toral from further exposing MDEQ's numerous blunders and the health

threat to Flint residents. She further stated that ***“It is too late for my son, but I will not stand by and let this happen to another other innocent child in Flint.”***

Clearly, the MDEQ, City of Flint and even the USEPA (with the obvious exception of Del Toral) have proved themselves unworthy of the public trust. Flint residents have been left to fend for themselves, when it comes to dealing with the dangers of high lead in their water.

FlintWaterStudy was launched an hour after the phone call from Ms. Walters, to help the citizens of Flint deal with the lead-in-water crisis that MDEQ created, and to correct any false statements by uncaring agencies that have left Flint’s children in harm’s way.

FOIA Documents:

Emails between MDEQ, USEPA, and Ms. LeeAnne Walters:

[Download \(PDF, 169KB\)](#)

Original LCR Report from City of Flint to MDEQ:

[Download \(PDF, 94KB\)](#)

Revised LCR Report from City of Flint to MDEQ:

[Download \(PDF, 357KB\)](#)

FlintWaterStudy.org’s FOIA Appeal Denied:

[Download \(PDF, 15KB\)](#)

MDEQ Pre-flushing Issue

The following results are from the sequential sampling in Chicago. The peak lead levels from our sequential sampling in June and Sept/Oct are compared to the 5-minute flushed samples. The tables below shows the difference in the lead levels using a five-minute flush vs. the peak lead level in each set of sequential samples. Although the peaks would not necessarily be caught in a first-draw sample under normal household use conditions, it is possible at a minimum that higher lead levels could be captured under normal household use, whereas a pre-flushed first-draw sample almost guarantees that these peaks will never be caught in the first-draw sample except if particulate lead is caught or on rare occasions.

Chicago Sampling Results					
Site	Peak LSL Lead (June)	Peak LSL Pb (Sept/Oct)	5 minute flush	5 Minute Flush as % of Peak (June)	5 Minute Flush as % of Peak (Sept/Oct)
1	27.8	22.3	6.56	0.24	0.29
3	14.6	19.6	2.93	0.20	0.15
7	23.6	15.3	5.46	0.23	0.36
8	33.5	25	5.54	0.17	0.22
9	20.8	20	7.23	0.35	0.36
10	23.9	32.4	4.3	0.18	0.13
11	4.43	5.02	1.69	0.38	0.34
12	26.9	30.3	1.45	0.05	0.05
17	24.7	5.45	2.76	0.11	0.51
18	14	11.6	3.71	0.27	0.32
23	13.5	12.8	4.54	0.34	0.35
24	12.6	14.5	12.4	0.98	0.86
26	4.39	5.94	3.23	0.74	0.54
27	14.2	19.6	14.1	0.99	0.72
28	DNS	5.73	3.26		0.57
29	35.7	36.7	10.9	0.31	0.30
30	DNS	33.1	4.82		0.15
31	20.8	23.9	3.76	0.18	0.16
33	16.4	21.6	4.06	0.25	0.19
34	DNS	3.17	1.75		0.55
35	12.9	18.9	4.03	0.31	0.21
36	9.9	13	5.29	0.53	0.41
DNS = Did Not Sample					

MI DEQ still has a 5 minute pre-flush in their guidance to PWSs and I just learned from the Flint Water Department that they are using the pre-flushing instructions. If the woman with the high lead levels had a shorter LSL, it is possible that the pre-flushed sample would have yielded significantly lower results and the high lead would have been missed.

Across the street, Flint sampled two homes (in the compliance pool). While I do not know if these homes have LSLs since 50% of the pool can be non-LSL sites, the lead levels were non-detect at these homes. I confirmed with the Flint water department that they used pre-flushing at those homes as well.

Michigan DEQ LCR Sampling Guidance to PWSs – Verified with Pat Cook as current as of Feb 2015

SUGGESTED PRACTICE FOR WATER WORKS DESIGN, CONSTRUCTION AND OPERATION) FOR TYPE I PUBLIC WATER SUPPLIES

Lead and Copper (Pb/Cu) Sampling

The concentrations of Pb/Cu in a water sample is greatly influenced by the sample collection procedures. Therefore, it is critical that samples be collected according to recommended procedures. The main source of unreliable Pb/Cu samples has to do with the age of the water being sampled. That is, the length of time the water has been stagnant in the site plumbing. Water that has been stagnant in the plumbing for an excessive time period may well yield unrepresentatively high results. Conversely, water that has just been extensively flushed and has had little contact time with the site plumbing may be unrepresentatively low. Since home owners are typically collecting the samples for the water supplier, it is in the water supplier's best interest to make certain samples were collected properly. Because a greater potential for sampling error exists with home owners collecting the samples, the water supply is strongly encouraged to sample early in the monitoring period to enable resampling or additional sampling should it be necessary. The following list summarizes Pb/Cu sampling recommendations assuming the water supply has already identified the proper sampling addresses based on the Tier 1-3 criteria:

- * Select a fixture to sample from that is commonly used for consumption such as a kitchen or bathroom sink. Avoid infrequently used fixtures such as guest bathrooms and basement laundry sinks.
- * When possible, avoid sampling at a vacant or seasonal home.
- * Plan to collect the sample first thing in the morning.
- * The night before you sample, run the cold water fixture you have selected for 3-4 minutes.
- * Do not use water from this location again for 6 to 8 hours.
- * In the morning before any water is used from the fixture, fill the sample bottle with the "first draw" of cold water.
- * Fill out any paperwork provided with the bottle.
- * When possible avoid sampling customers that have a point-of-use or point-of-entry treatment device.

The water supply is encouraged to provide the sampling participants with written instructions. If there is any suspicion that the sample was not collected properly, then the water supply is encouraged to discard the sample and resample.

Drinking Water Lead & Copper Sampling Instructions (see attached form)

Dear Resident:

Thank you for helping to monitor for lead and copper in your drinking water. It is important that you follow these instructions so that we may collect an accurate measurement of the lead and copper in your drinking water. This sample is supposed to represent the water you would typically drink and the faucet from where you would drink the water. Call your water supply if you have any questions.

1. Select a faucet in the KITCHEN or BATHROOM that is commonly used for drinking. DO NOT sample from a laundry sink or a hose spigot as these samples cannot be used by your utility.
2. Flush the COLD water for at least 5 minutes. Let the water sit for at least 6 hours **before** you plan to collect the sample. If you have a single handle faucet, turn it to the COLD side. DO NOT use this faucet again until it is sampled.
3. Wait at least 6 hours before collecting your sample but we do not recommend sampling if the faucet has sat idle for more than 12 hours.
4. Fill the sample bottle to the neck with the “first draw” of COLD water from the faucet that you flushed at least 6 hours previous.
5. Please answer the following questions:

- a) Did you flush the water for at least 5 minutes and let it sit unused for 6 hours before you filled the bottle? Yes No
- b) What date and time did you **flush the faucet**? Date _____ Time _____ P.M.
- c) What date and time did you **fill the bottle**? Date _____ Time _____ A.M.
- d) Did you fill the bottle from the same faucet that was flushed 6 hours before? Yes No

If NO, please explain:

- e) Which faucet did you use to fill the bottle? Kitchen Main Bathroom Other

If OTHER, please describe:

- f) Is this faucet connected to a home treatment device such as a water softener, a reverse osmosis unit, an iron removal device OR is any kind of additive used in the home? Yes No

If YES, please

describe: _____

Your Printed Name

Your Address

Your Signature

6. Attach this form to the bottle and leave it outside your front door for pick-up.



MICHIGAN_DEQ1.pdf
f

To: Shoven, Heather[shoven.heather@epa.gov]
Cc: Porter, Andrea[porters.andrea@epa.gov]
From: Crooks, Jennifer
Sent: Thur 10/1/2015 5:29:33 PM
Subject: FW: Detroit data in SDWIS

Heather/Andrea—(sorry I forgot to cc you both---brain freeze...) Who are we to tell this to at OGC? Or at OGWDW?

Jen

From: Crooks, Jennifer
Sent: Thursday, October 01, 2015 10:33 AM
To: Thomas Poy; Bair, Rita; Deltoral, Miguel; Damato, Nicholas
Subject: FW: Detroit data in SDWIS

Michigan DEQ did respond that Detroit's data as a (b)(3) system is in error. See State response below.

Jennifer

From: Donaldson, Kristina (DEQ) [<mailto:DONALDSONK@michigan.gov>]
Sent: Thursday, October 01, 2015 10:25 AM
To: Crooks, Jennifer
Cc: Shoven, Heather; Porter, Andrea; Philip, Kris (DEQ)
Subject: RE: Detroit data in SDWIS

Hi Jennifer,

You are correct that there is an error. Detroit did install corrosion control in the 1990s, it was demonstrated as optimized and in 1999 we established water quality parameters for the city.

We plan to review the SDWIS entries and make corrections as needed before the next data submission.

Thanks!

Kris Donaldson, P.E.

District Supervisor

Office of Drinking Water & Municipal Assistance

Michigan Department of Environmental Quality

27700 Donald Court

Warren, MI 48092

ph. 586-753-3759

fax. 586-753-3831

From: Crooks, Jennifer [<mailto:crooks.jennifer@epa.gov>]

Sent: Tuesday, September 29, 2015 3:20 PM

To: Donaldson, Kristina (DEQ)

Cc: Shoven, Heather; Porter, Andrea; Philip, Kris (DEQ)

Subject: Detroit data in SDWIS

Hi, Kris. We were looking at Detroit data in SDWIS this morning, and I'm not sure about some data—see below. Under "Event Milestone Description", it says about Detroit "System deemed optimized without Optimal Corrosion Control Treatment (OCCT)", and the reason was "B3", which is Michigan rule 604f(2)(b)(iii). But I thought that Detroit did exceed the PQL (5ppb) back in the early 90's and that the City did install CCT, so it can't be a B3. Detroit used the Modified Consecutive System approach in the early 90's to collect data from all the sampling at consecutive systems, so it could evaluate the water as a single system. So, I think the above 2 data entries (seen below) are incorrect?

Thank you, Kris.

Jennifer

From: Porter, Andrea

Sent: Tuesday, September 29, 2015 12:34 PM

To: Crooks, Jennifer

Subject: FW: flint --> lcr milestone data in sdwis/fed (no info for flint; deem for detroit)

fyi

SDS NAME	ESCHENBACH DETROIT	DEEM	SYSTEMS	NEEDS	REASON
DETROIT	6/30/1999	5/19/2004	DEEM	System deemed optimized without OCCT	Serving greater than 50,000: met action levels
MI000180411					
OF					

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

To: Crooks, Jennifer[crooks.jennifer@epa.gov]
From: Shoven, Heather
Sent: Thur 10/1/2015 5:30:22 PM
Subject: RE: Detroit data in SDWIS

I can pass it along to the list of folks.

Best wishes,

Heather

Heather A. Shoven | Enforcement Team Leader | U.S. Environmental Protection Agency, Region 5

Ground Water and Drinking Water Branch | 77 W. Jackson Blvd (WG-15J) | Chicago, IL 60604 | 312-886-0153

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fax. 586-753-3831

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fyi

PWSID	NAME	ENGINEER	DATE	DATE	REASON	REASON	REASON
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Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

To: Moriarty, Edward[Moriarty.EdwardJ@epa.gov]; Viveiros, Edward[Viveiros.Edward@epa.gov]; Banks, Victoria[Banks.Victoria@epa.gov]; Darman, Leslie[Darman.Leslie@epa.gov]; Kempic, Jeffrey[Kempic.Jeffrey@epa.gov]; Glowacki, Joanna[glowacki.joanna@epa.gov]; Lopez-Carbo, Maria[Lopez-Carbo.Maria@epa.gov]; King, Carol[King.Carol@epa.gov]
Cc: Porter, Andrea[porters.andrea@epa.gov]; Crooks, Jennifer[crooks.jennifer@epa.gov]; Deltoral, Miguel[deltoral.miguel@epa.gov]; Bair, Rita[bair.rita@epa.gov]; Poy, Thomas[poy.thomas@epa.gov]; Damato, Nicholas[damato.nicholas@epa.gov]
From: Shoven, Heather
Sent: Thur 10/1/2015 5:38:01 PM
Subject: FYI: Detroit data in SDWIS -- MDEQ notes that Detroit is not a (b)(3) system under the LCR

Hello OECA, OGWDW, OGC, and ORC Colleagues,

I am forwarding Michigan DEQ's response to Region 5's inquiry as to whether MDEQ considered Detroit to be a (b)(3) system under LCR since b3 status was reported to SDWIS. MDEQ stated that the SDWIS data is incorrect and Detroit is not considered to be a (b)(3) system since it was optimized with the installation of CCT.

Thanks,

Heather

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Cc: Shoven, Heather; Porter, Andrea; Philip, Kris (DEQ)

Subject: Detroit data in SDWIS

Hi, Kris. We were looking at Detroit data in SDWIS this morning, and I'm not sure about some data—see below. Under “Event Milestone Description”, it says about Detroit “System deemed optimized without Optimal Corrosion Control Treatment (OCCT)”, and the reason was “B3”, which is Michigan rule 604f(2)(b)(iii). But I thought that Detroit did exceed the PQL (5ppb) back in the early 90's and that the City did install CCT, so it can't be a B3. Detroit used the Modified Consecutive System approach in the early 90's to collect data from all the sampling at consecutive systems, so it could evaluate the water as a single system. So, I think the above 2 data entries (seen below) are incorrect?

Thank you, Kris.

Jennifer

From: Porter, Andrea
Sent: Tuesday, September 29, 2015 12:34 PM
To: Crooks, Jennifer
Subject: FW: flint --> lcr milestone data in sdwis/fed (no info for flint; deem for detroit)

fyi

PWSID	NAME	ENGINEER	DATE	COMMENTS	STATUS	REASON
MI000180011	DETROIT		6/30/1999	5/19/2004	DEEM	System deemed optimized without OCCT
	OF					Serving greater than 50,000: met action levels

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

The Honorable Daniel Kildee
House of Representatives
Washington, D.C. 20515

Dear Congressman Kildee:

Thank you for your September 22, 2015 letter requesting assistance in providing safe drinking water to Flint residents.

The U.S. Environmental Protection Agency is working with the City of Flint and the State of Michigan to ensure that Flint residents have safe drinking water, including exploring interim measures such as point-of-use water filters. EPA provides the state with funding to aid public water systems through the Drinking Water State Revolving Fund (DWSRF). If the City of Flint and the state would like to pursue a proposal for use of DWSRF to pay for tap filters, EPA will work with them to determine if such costs would be allowable under the DWSRF rules.

Flint residents who are concerned about lead in drinking water may request water sampling by the local water utility. General information about lead in drinking water and tips to reduce lead exposure are available at <http://water.epa.gov/drink/info/lead/index.cfm>.

Again, thank you for your letter. If you have further questions please contact me or your staff may contact Denise Fortin or Ronna Beckmann, the Region 5 Congressional Liaisons, at (312) 886-3000.

Sincerely,

Susan Hedman
Regional Administrator

bcc: Catherine Davis – OCIR-CA-WPTT

Office of Water

To: Christ, Lisa[Christ.Lisa@epa.gov]; Burneson, Eric[Burneson.Eric@epa.gov]
From: Kempic, Jeffrey
Sent: Thur 10/1/2015 5:58:13 PM
Subject: FW: Detroit data in SDWIS -- MDEQ notes that Detroit is not a (b)(3) system under the LCR

Deliberative Process / Ex. 5

Jeff

From: Shoven, Heather
Sent: Thursday, October 01, 2015 1:38 PM
To: Moriarty, Edward; Viveiros, Edward; Banks, Victoria; Darman, Leslie; Kempic, Jeffrey; Glowacki, Joanna; Lopez-Carbo, Maria; King, Carol
Cc: Porter, Andrea; Crooks, Jennifer; Deltoral, Miguel; Bair, Rita; Poy, Thomas; Damato, Nicholas
Subject: FYI: Detroit data in SDWIS -- MDEQ notes that Detroit is not a (b)(3) system under the LCR

Hello OECA, OGWDW, OGC, and ORC Colleagues,

I am forwarding Michigan DEQ's response to Region 5's inquiry as to whether MDEQ considered Detroit to be a (b)(3) system under LCR since b3 status was reported to SDWIS. MDEQ stated that the SDWIS data is incorrect and Detroit is not considered to be a (b)(3) system since it was optimized with the installation of CCT.

Thanks,

Heather

From: Donaldson, Kristina (DEQ) [mailto:DONALDSONK@michigan.gov]
Sent: Thursday, October 01, 2015 10:25 AM
To: Crooks, Jennifer

Cc: Shoven, Heather; Porter, Andrea; Philip, Kris (DEQ)
Subject: RE: Detroit data in SDWIS

Hi Jennifer,

You are correct that there is an error. Detroit did install corrosion control in the 1990s, it was demonstrated as optimized and in 1999 we established water quality parameters for the city.

We plan to review the SDWIS entries and make corrections as needed before the next data submission.

Thanks!

Kris Donaldson, P.E.

District Supervisor

Office of Drinking Water & Municipal Assistance

Michigan Department of Environmental Quality

27700 Donald Court

Warren, MI 48092

ph. 586-753-3759

fax. 586-753-3831

From: Crooks, Jennifer [<mailto:crooks.jennifer@epa.gov>]
Sent: Tuesday, September 29, 2015 3:20 PM
To: Donaldson, Kristina (DEQ)
Cc: Shoven, Heather; Porter, Andrea; Philip, Kris (DEQ)
Subject: Detroit data in SDWIS

Deliberative Process / Ex. 5

Thank you, Kris.

Jennifer

From: Porter, Andrea

Sent: Tuesday, September 29, 2015 12:34 PM

To: Crooks, Jennifer

Subject: FW: flint --> lcr milestone data in sdwis/fed (no info for flint; deem for detroit)

fyi

SDS NAME	SCENARIO	DATE	CONTRIBUTOR	LOCATION	SYSTEM	DEEM	REASON
DETROIT		6/30/1999	5/19/2004	DEEM	System deemed optimized without OCCT	B3	Serving greater than 50,000: met action levels
MI00180411							
OF							

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

U.S. EPA, Region 5 (WG-15J)

77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

Fax: 312-697-2656

To: Daguillard, Robert[Daguillard.Robert@epa.gov]
From: Lindsey Smith
Sent: Thur 10/1/2015 6:35:26 PM
Subject: Re: Press Inquiry about Drinking Water - corrosion control treatment

Thanks Robert. I will lay off the regio 5 folks I've been calling/emailing - assuming you're working on this. Best~

On Thu, Oct 1, 2015 at 10:40 AM, Daguillard, Robert <Daguillard.Robert@epa.gov> wrote:

Hullo Lindsey. A quick word to acknowledge receipt. Thanks, R.

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Thursday, October 01, 2015 10:37 AM
To: Daguillard, Robert
Subject: Press Inquiry about Drinking Water - corrosion control treatment

Good morning Robert,

I just left a message on your cell - apologies for the redundancy. I'm hoping you or someone at EPA can answer this question: Is corrosion control treatment required of large water systems, even when they introduce a new water source.

There are people within the EPA that have said it **is** required. But the state maintains that it is not required when a new source is introduced.

Here's a link to the piece I wrote the other day. <http://michiganradio.org/post/flint-mayor-state-approve-plan-fast-humanly-possible-help-keep-lead-out-water#stream/0>

Here's the key part I'm still hoping to answer: "The U.S. Environmental Protection Agency has not yet answered this question: Was Flint required to have some form of corrosion-control treatment the whole time?"

Here's how I read the regulations, in absence of EPA confirmation one way or the other (but I'm no lawyer so I'd love a clearer response from EPA):

"In approving updates to this federal regulation in 2000, the EPA noted that "water systems need to make treatment changes, on occasion, to react to changing circumstances."

In these cases, the rule does not "prevent a state from approving treatment changes," but it's not entirely clear if the state can approve having zero corrosion-control treatment.

One key section of the rule change reads:

“One commenter requested that EPA clarify in the rule language that (large water) systems are not required to have (corrosion-control treatment) physically present. EPA disagrees that this is appropriate.”

“For large water systems, (the federal rule) does not eliminate the need to have any (corrosion-control treatment) in place, unless the water system can demonstrate to the satisfaction of the State that such treatment will have no effect on reducing the levels of lead and copper at the tap ... EPA expects few, if any, large water systems can make this demonstration without (corrosion-control treatment).”

Thanks for your quick response.

All the best,

--

Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

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Lindsey Smith
West Michigan Reporter
Michigan Radio
Office (616) 551-0717
michiganradio.org

To: Lindsey Smith[lmsmi@umich.edu]
From: Daguillard, Robert
Sent: Thur 10/1/2015 6:39:30 PM
Subject: RE: Press Inquiry about Drinking Water - corrosion control treatment

I am indeed. This said, your inquiry is relatively complex and may require input from several offices, so I can't promise a speedy response i.e., COB or tomorrow.

Also, we're releasing a major announcement today, so some of the people who would normally help with your query will be busy with that.

I'll keep you posted, though.

Thanks for reaching out and for your patience. Best, R.

From: Lindsey Smith [mailto:lmsmi@umich.edu]
Sent: Thursday, October 01, 2015 2:35 PM
To: Daguillard, Robert
Subject: Re: Press Inquiry about Drinking Water - corrosion control treatment

Thanks Robert. I will lay off the regio 5 folks I've been calling/emailing - assuming you're working on this. Best~

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Subject: Press Inquiry about Drinking Water - corrosion control treatment

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Lindsey Smith
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Office (616) 551-0717

michiganradio.org

--

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Office (616) 551-0717
michiganradio.org

To: Daguillard, Robert[Daguillard.Robert@epa.gov]
From: Lindsey Smith
Sent: Thur 10/1/2015 6:48:10 PM
Subject: Re: Press Inquiry about Drinking Water - corrosion control treatment

Ok. Good to know. Thanks for the update. I feel like we're publishing stuff on this on a daily basis so I'll take it as soon as you have it. Tomorrow would be fabulous but as long as I know it's getting worked on, I can at least write in the meantime that what may seem a simple question to some is actually relatively complex. That'll at least hold them over. We're getting a lot of heat over the question not being answered. Best!

On Thu, Oct 1, 2015 at 2:39 PM, Daguillard, Robert <Daguillard.Robert@epa.gov> wrote:

I am indeed. This said, your inquiry is relatively complex and may require input from several offices, so I can't promise a speedy response i.e., COB or tomorrow.

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To: Daguillard, Robert
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"One commenter requested that EPA clarify in the rule language that (large water) systems are not required to have (corrosion-control treatment) physically present. EPA disagrees that this is appropriate."

"For large water systems, (the federal rule) does not eliminate the need to have any (corrosion-control treatment) in place, unless the water system can demonstrate to the satisfaction of the State that such treatment will have no effect on reducing the levels of lead and copper at the tap ... EPA expects few, if any, large water systems can make this demonstration without (corrosion-control

treatment)."

Thanks for your quick response.

All the best,

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**BEFORE THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

Petition for Emergency Action under the Safe Drinking Water Act, 42 U.S.C. § 300i, to Abate
the Imminent and Substantial Endangerment to Flint, Michigan Residents from Lead
Contamination in Drinking Water

**Submitted on Behalf of Petitioners Coalition for Clean Water, Concerned Pastors for
Social Action, Water You Fighting For, Democracy Defense League Water Task Force,
Flint Water Study Team, Michigan Nurses Association, NAACP – Michigan State
Conference, Michigan Chapter of the National Conference of Black Lawyers, American
Civil Liberties Union of Michigan, and the Natural Resources Defense Council**

October 1, 2015

Notice of Petition

Gina McCarthy
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Mail Code: 1101A
Washington, DC 20460

Susan Hedman
Regional Administrator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Mail Code: R-19J
Chicago, IL 60604-3507

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4. Wenonah Hauter, *Flint's Brown Water Blues*, Huffington Post (July 10, 2015)
5. Laura Gottesdiener, *Flint, Mich., Residents find state water control hard to swallow*, Al Jazeera America (Apr. 3, 2015)
6. Ron Fonger, *Flint issues boil water advisory for section of the city after positive test result for total coliform bacteria*, Michigan Live (Sept. 5, 2014)
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8. Michigan Department of Environmental Quality, Violation Notice—Maximum Contaminant Level for Total Trihalomethanes (Dec. 16, 2014)
9. U.S. EPA, Basic Information about Disinfection Byproducts in Drinking Water
10. Order Den. Mot. for Prelim. Inj. 1, *Coalition for Clean Water v. City of Flint*, No. 15-cv-12084 (E.D. Mich. June 23, 2015)
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15. U.S. EPA, Basic Information About Lead in Drinking Water (last updated June 26, 2015)
16. Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, and Mike Prysby, MDEQ (Feb. 26, 2015)

17. City of Flint, City of Flint Issues Lead Advisory (Sept. 25, 2015)
18. H.R. Rep. No. 93-1185, 1974 U.S.C.C.A.N. 6454, 6487 (1974); *In re Yakima Valley Dairies*, Admin. Order on Consent (U.S. EPA Region 10, Mar. 5, 2013)
19. Complaint, *Coalition for Clean Water v. City of Flint*, No. 104900-cz (Mich. Cir. Ct. June 5, 2015)
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21. Ron Fonger, *Flint mayor accepts petitions but not call to end use of Flint River*, Michigan Live (Aug. 31, 2015)
22. William E. Ketchum III, *People take to streets to protest Flint water quality*, Michigan Live (Feb. 14, 2015)
23. AP, *Flint city councilman: 'We got bad water,'* Detroit Free Press (Jan. 14, 2015)
24. Letter from Jim Ananich, Mich. Sen. Minority Leader and Sheldon Neeley, Phil Phelps, Mich. State Representatives, to Dan Wyant, MDEQ (Sept. 10, 2015)
25. Letter from U.S. Representative Dan Kildee, U.S. Representative, to Administrator Gina McCarthy, U.S. EPA, & Director Dan Wyant, MDEQ (Sept. 9, 2015)
26. *Flint Town Hall Meeting Presentation and Distribution of lead results across Flint by ward and zip codes*, Flint Water Study (Sept. 16, 2015)
27. Siddhartha Roy, Flint Water Study Updates for the Citizens of Flint (Sept. 15, 2015)
28. Ron Fonger, *Virginia Tech professor says Flint's tests for lead in water can't be trusted*, Michigan Live (Sept. 15, 2015)
29. *Lead testing results for water sampled by residents*, Flint Water Study (last visited Sept. 28, 2015)
30. Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, et al. (Mar. 18, 2015)
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32. Consumer Notice of Lead & Copper Results in Drinking Water (Feb. 18, 2015)
33. Mich. Dep't of Env'tl. Quality, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Aug. 20, 2015)
34. Drinking Water Lead & Copper Sampling Instructions

35. Memorandum from Miguel A. Del Toral, Regulations Mgmt., Ground Water and Drinking Water Branch, U.S. EPA Region 5, to Thomas Poy, Chief, Ground Water and Drinking Water Branch, U.S. EPA Region 5, re High Levels in Flint, Michigan—Interim Report 2 (June 24, 2015)
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37. Letter from Cynthia C. Dougherty, U.S. EPA, to Ralph Scott, Alliance for Healthy Homes (Sept. 12, 2008)
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39. Centers for Disease Control and Prevention, Preventing Lead Poisoning in Your Children: Chapter 2 (Oct. 1991)
40. Centers for Disease Control and Prevention, *What Do Parents Need to Know to Protect Their Children?* (last updated June 19, 2014)
41. Centers for Disease Control and Prevention, National Biomonitoring Program, Factsheet: Lead (last updated Jul. 12, 2013)
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46. CDC, *Blood Lead Levels in Residents of Homes with Elevated Lead in Tap Water—District of Columbia, 2004*, 53 MMWR Weekly 268 (Apr. 2, 2004)
47. Marc Edwards, *Fetal Death and Reduced Birth Rates Associated with Exposure to Lead-Contaminated Drinking Water*, 48 Env'tl. Sci. & Tech. 739 (2013)
48. Email from Jennifer Crooks, U.S. EPA, to Mike Prysby (Feb. 26, 2015)
49. Pediatric Lead Exposure in Flint, MI: Concerns from the Medical Community (PowerPoint Presentation)

50. Kristi Tanner & Nancy Kaffer, *State data confirms higher blood-lead levels in Flint kids*, Detroit Free Press (Sept. 29, 2015)
51. Centers for Disease Control and Prevention, *Public Health in Action: Lead Poisoning Prevention in Michigan* (last updated Feb. 4, 2013)
52. American FactFinder, 2009-2013 American Community Survey 5-year Estimates, Flint, Michigan and State of Michigan
53. American Cancer Society, *Lead, Lead in the Environment* (last updated May 27, 2014)
54. 2012 Annual Data Report on Blood Lead Levels of Children in Michigan 26 (Apr. 2013)
55. CPSC, *CPSC Announces Final Ban on Lead-Containing Paint* (Sept. 2, 1977)
56. Dominic Adams, *State says Flint hasn't applied for permit to use river as drinking water source*, Michigan Live (Mar. 28, 2014)
57. Email from Stephen Busch, MDEQ, to Jennifer Crooks and Miguel Del Toral, U.S. EPA (Feb. 27, 2015)
58. Email from Pat Cook, MDEQ, to Miguel Del Toral, U.S. EPA (Apr. 24, 2015)
59. Email from Michael Glasgow (June 1, 2015)
60. City of Flint Water Plant, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Jul. 28, 2015)
61. Email from Adam Rosenthal, MDEQ, to Michael Glasgow, Brent Wright, City of Flint (June 25, 2015)
62. Letter from MDEQ to MI State Senators (Sept. 17, 2015)
63. *Did this Michigan Town Poison its Children?*, U.S. News & World Report (Sept. 24, 2015)
64. Ron Fonger, *Feds sending in experts to help Flint keep lead out of water*, Michigan Live (Sept. 10, 2015)
65. Ron Fonger, *Flint will have lead-reduction plan for water system by 2016, officials say*, Michigan Live (Sept. 3, 2015)
66. Amanda Emery, *Flint public school students told to bring own water to school*, Michigan Live (Sept. 25, 2015)

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70. Ron Fonger, *Judge orders Flint to cut water rates 35 percent in sweeping injunction*, Michigan Live (Aug. 7, 2015)
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The residents of Flint, Michigan have been and continue to be exposed to dangerous levels of lead in their drinking water. Monitoring results confirm that, in many instances, these levels are well above the threshold set by the U.S. Environmental Protection Agency (EPA) that triggers mandatory corrective action by public water systems. The City of Flint and the Michigan Department of Environmental Quality (MDEQ) have failed to address this public health crisis, despite their awareness of these monitoring results and data showing increasing blood lead levels in children residing in Flint.

The Coalition for Clean Water, Concerned Pastors for Social Action, Water You Fighting For, Democracy Defense League Water Task Force, Flint Water Study Team, Michigan Nurses Association, NAACP – Michigan State Conference, Michigan Chapter of the National Conference of Black Lawyers, American Civil Liberties Union of Michigan, and Natural Resources Defense Council (collectively, Petitioners) petition EPA to use its emergency powers under the Safe Drinking Water Act (SDWA or the Act), 42 U.S.C. § 300i, to take action to abate the imminent and substantial endangerment to human health caused by lead contamination in Flint’s drinking water. As Petitioners demonstrate below, this contamination meets the SDWA requirements for immediate action by EPA and requires a comprehensive federal response.

I. Background

Water-quality problems have plagued Flint’s water system since at least April 2014, when the City began using the Flint River as its water source after deciding not to continue purchasing water from Lake Huron through the Detroit Water and Sewerage Department, as it had done for nearly fifty years.¹ In the eighteen months since the switch to Flint River water, the City’s drinking water has been at times discolored, foul smelling, and “laden with sediments.”² Residents report that they have experienced hair loss, skin rashes, and vomiting after drinking the water.³ In the summer of 2014, the City was forced to issue several boil-water notices after tap water tested positive for total coliform bacteria, which

¹ See Dominic Adams, *Closing the valve on history: Flint cuts water flow from Detroit after nearly 50 years*, Michigan Live, Apr. 25, 2014, http://www.mlive.com/news/flint/index.ssf/2014/04/closing_the_valve_on_history_f.html (attached as Ex. 1); Letter from Darnell Earley, Emergency Manager, to Sue McCormick, Detroit Water & Sewer Dep’t (Mar. 7, 2014) (explaining that the City “has actively pursued using the Flint River as a temporary water source” instead of accepting Detroit’s offer to “provide[] Flint with the option of continuing to purchase water from DWSD”) (attached as Ex. 2).

² See Curt Guyette, *In Flint, Michigan, Overpriced Water is Causing People’s Skin to Erupt in Rashes and Hair to Fall Out*, The Nation, July 16, 2015, <http://www.thenation.com/article/in-flint-michigan-overpriced-water-is-causing-peoples-skin-to-erupt-and-hair-to-fall-out/> (attached as Ex. 3); Wenonah Hauter, *Flint’s Brown Water Blues*, Huffington Post, July 10, 2015, http://www.huffingtonpost.com/wenonah-hauter/flints-brown-water-blues_b_7765132.html (attached as Ex. 4).

³ Laura Gottesdiener, *Flint, Mich., Residents find state water control hard to swallow*, Al Jazeera America, Apr. 3, 2015, <http://america.aljazeera.com/articles/2015/4/3/flint-residents-find-state-water-control-hard-to-swallow.html> (attached as Ex. 5).

suggested a possible “pathway for pathogens and fecal contamination” to enter the water system.⁴

The City’s subsequent treatment of the water to kill disease-carrying pathogens resulted in elevated levels of total trihalomethanes (TTHM), a byproduct of disinfection.⁵ Drinking water with TTHM levels that exceed the federal limit can cause “liver, kidney, or central nervous system problems and increased risk of cancer.”⁶ In response to the City’s water problems, local hospitals, schools, and museums began using bottled water instead of tap water.⁷ Some grocery stores reduced the price of bottled water and “sponsored community giveaways of bottled water to low income residents.”⁸

Flint River water is also highly corrosive, causing dangerous amounts of lead to leach out of pipes and into the City’s water system.⁹ Recent sampling has shown that lead is present in Flint’s water system at levels well above 15 parts per billion (ppb), the “action level” for lead under the SDWA.¹⁰ These high lead levels put residents at risk of increased lead exposure, which can cause a broad array of serious, irreversible health effects, including cognitive impairment, decreased red blood cell survival, kidney damage, coronary heart disease, and impaired reproductive function.¹¹

⁴ Ron Fonger, *Flint issues boil water advisory for section of the city after positive test result for total coliform bacteria*, Michigan Live, Sept. 5, 2014, http://www.mlive.com/news/flint/index.ssf/2014/09/flint_issues_boil_water_adviso.html (attached as Ex. 6).

⁵ Robin Erb, *Who wants to drink Flint’s water?*, Detroit Free Press, Jan. 23, 2015, <http://www.freep.com/story/news/local/michigan/2015/01/22/water-woes-latest-hit-flint/22193291/> (attached as Ex. 7); Mich. Dep’t of Env’tl. Quality, Violation Notice—Maximum Contaminant Level for Total Trihalomethanes (Dec. 16, 2014) (attached as Ex. 8).

⁶ U.S. EPA, Basic Information about Disinfection Byproducts in Drinking Water, <http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm> (last updated Dec. 13, 2013) (attached as Ex. 9); see 40 C.F.R. § 141.64(b).

⁷ Order Den. Mot. for Prelim. Inj. 1, *Coalition for Clean Water v. City of Flint*, No. 15-cv-12084 (E.D. Mich. June 23, 2015), ECF No. 6 (attached as Ex. 10).

⁸ *Id.*

⁹ Marc Edwards, *Flint River water 19X more corrosive than Detroit water for Lead Solder; Now What?*, Flint Water Study (Sept. 11, 2015), <http://flintwaterstudy.org/2015/09/test-update-flint-river-water-19x-more-corrosive-than-detroit-water-for-lead-solder-now-what/> (attached as Ex. 11); Marc Edwards, *Flint River water is very corrosive to lead, and causing lead contamination in homes*, Flint Water Study (Sept. 2, 2015), <http://flintwaterstudy.org/2015/09/flint-rivers-water-is-very-corrosive-to-lead-and-causing-lead-contamination-in-homes/> (attached as Ex. 12). The river water is so corrosive that in October 2014, a local GM engine plant decided to switch back to Lake Huron water to avoid damage to equipment at the plant from corrosion. Brianna Owczarzak, *GM says no to Flint water*, WNEM, Oct. 14, 2014, <http://www.wnem.com/story/26785625/gm-says-no-to-flint-water> (attached as Ex. 13).

¹⁰ 40 C.F.R. § 141.80(c)(1).

¹¹ See, e.g., U.S. EPA, Integrated Science Assessment for Lead tbl.ES-1 (June 2013) (attached as Ex. 14) (summarizing health effects of lead exposure); U.S. EPA, Basic

The City of Flint and the Michigan Department of Environmental Quality (MDEQ) have been aware of independent monitoring results showing exceedingly high lead levels in the City's drinking water for months.¹² Despite increasing public concern about the safety of the City's drinking water, neither the City nor MDEQ has taken the actions necessary to meaningfully address the problem. The City has not implemented *any* measures to treat the highly corrosive Flint River water to reduce the amount of lead leaching from service pipes.¹³ And MDEQ refuses to use its enforcement authority under the SDWA or state law to require Flint to employ corrosion control measures or provide alternative safe water supplies.¹⁴

When state and local authorities fail to adequately address a public health crisis, the SDWA empowers EPA to act. Section 1431 of the Act vests EPA with broad emergency authority to address endangerments to public health from contaminated drinking water. The EPA Administrator may use these emergency powers "upon receipt of information that a contaminant which is present in or is likely to enter a public water system . . . may present an imminent and substantial endangerment to the health of persons, and that appropriate State and local authorities have not acted to protect the health of such persons."¹⁵ Once the Administrator receives this information, she may "take such actions as [s]he may deem necessary in order to protect [public] health."¹⁶ These actions "may include (but shall not be limited to) . . . issuing such orders as may be necessary to protect the health of persons who are or may be users of such system (including travelers), including

Information About Lead in Drinking Water, <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm> (last updated June 26, 2015) (explaining that "[i]nfants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development," and that "[a]dults who drink this water over many years could develop kidney problems or high blood pressure") (attached as Ex. 15); *see also* National Ambient Air Quality Standards for Lead, 80 Fed. Reg. 278, 290 (Jan. 5, 2015).

¹² *See, e.g.*, Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, and Mike Prysby, MDEQ (Feb. 26, 2015) (describing "[b]ig worries" for high lead test results at a Flint resident's home) (attached as Ex. 16).

¹³ The City's plan to implement corrosion control measures within thirty to sixty days is inadequate to address the ongoing endangerment. *See* City of Flint, City of Flint Issues Lead Advisory (Sept. 25, 2015), <https://www.cityofflint.com/2015/09/25/city-of-flint-issues-lead-advisory/> (attached as Ex. 17).

¹⁴ *See* Mich. Comp. Laws Ann. §§ 325.1015(1) ("When considered necessary for protection of the public health, the department shall notify a supplier of water of the need to make changes in operations, to provide treatment, [or] to make structural changes in existing systems . . . as necessary to produce and distribute an adequate quantity of water meeting the state drinking water standards."), (3) ("If a public water supply poses an imminent hazard to the public health, the department may issue an emergency order immediately, . . . requiring such action as the department determines is necessary to protect the public health.").

¹⁵ 42 U.S.C. § 300i(a).

¹⁶ *Id.*

orders requiring the provision of alternative water supplies by persons who caused or contributed to the endangerment.”¹⁷ EPA has, in the past, used its emergency powers to issue orders to provide alternative safe water sources to community members, require public notice of the drinking water hazard, require contributors to the hazard to treat or otherwise mitigate the hazardous conditions, and require additional monitoring and data-collection activities.¹⁸

As Petitioners demonstrate below, the lead contamination in Flint’s drinking water meets the prerequisites that authorize EPA to take emergency action under the SDWA.

II. Interests of Petitioners

Petitioners are community groups and advocacy organizations seeking safe and clean water for all residents in Flint. For instance, the Coalition for Clean Water (Coalition), which includes Concerned Pastors for Social Action, Water You Fighting For, and Democracy Defense League Water Task Force, among other community members, has urged city and state officials for months to address Flint’s water-quality problems. The Coalition filed a lawsuit in June 2015 in the Circuit Court for the County of Genesee seeking declaratory, injunctive, and other relief relating to Flint’s water-quality problems.¹⁹ In August 2015, Food and Water Watch, Water You Fighting For, and the Coalition for Clean Water collected more than 26,000 signatures on a petition to Mayor Dayne Walling asking the City to end its use of the Flint River as a drinking water source.²⁰ Community members have also organized marches²¹ and met with City Council²² to raise concerns about the quality of Flint’s drinking water. These advocacy activities fueled awareness and concern

¹⁷ *Id.*

¹⁸ See H.R. Rep. No. 93-1185, 1974 U.S.C.C.A.N. 6454, 6487 (1974); *In re Yakima Valley Dairies*, Admin. Order on Consent (U.S. EPA Region 10, Mar. 5, 2013), http://www.epa.gov/region10/pdf/sites/yakimagw/consent_order_yakima_valley_dairies_march2013.pdf (attached as Ex. 18).

¹⁹ Compl., *Coalition for Clean Water v. City of Flint*, No. 104900-cz (Mich. Cir. Ct. June 5, 2015) (attached as Ex. 19).

²⁰ Ron Fonger, *Groups collect 26,000 signatures to end use of Flint River for Water*, Michigan Live, Aug. 31, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/groups_delivering_26000_signat.html#incart_river (attached as Ex. 20); Ron Fonger, *Flint mayor accepts petitions but not call to end use of Flint River*, Michigan Live, Aug. 31, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/flint_mayor_accepts_petitions.html (attached as Ex. 21).

²¹ William E. Ketchum III, *People take to streets to protest Flint water quality*, Michigan Live, Feb. 14, 2015, http://www.mlive.com/news/flint/index.ssf/2015/02/flint_residents_protest_citys.html (attached as Ex. 22).

²² AP, *Flint city councilman: ‘We got bad water,’* Detroit Free Press, Jan. 14, 2015, <http://www.freep.com/story/news/local/michigan/2015/01/14/flint-water-resident-complaints/21743465/> (attached as Ex. 23).

among residents and some elected officials in Flint,²³ but have not resulted in any comprehensive action by the City or the State.

III. Lead present in and likely to continue to enter Flint's water system presents an imminent and substantial endangerment to human health

A. Lead is present in and likely to continue to enter Flint's water system

Flint's residents face ongoing endangerment from lead in their drinking water. Recent sampling data show that dangerously high levels of lead are present in and will likely continue to enter Flint's water system.²⁴ In August and September 2015, Dr. Marc Edwards, a water resources engineering professor at Virginia Tech, tested 252 drinking water samples collected from Flint residences. Edwards found that *ten percent* of these samples had lead levels of 25 ppb or more, substantially in excess of the federal action level of 15 ppb.²⁵ Several samples exceeded 100 ppb, and one sample exceeded 1000 ppb.²⁶ Edwards' sampling data show that lead—a contaminant under the SDWA²⁷—is present in Flint's water system.

The results of Edwards' testing are even more concerning because the sampling did not target high-risk residences, as the City is required to do under the Lead and Copper Rule.²⁸ Because lead levels in a water system are not evenly distributed, EPA requires monitoring for lead under the SDWA to target high-risk residences, "to better ensure that high levels of lead are detected and that the system institutes treatment that provides

²³ See Letter from Jim Ananich, Mich. Sen. Minority Leader and Sheldon Neeley, Phil Phelps, Mich. State Representatives, to Dan Wyant, MDEQ (Sept. 10, 2015) (attached as Ex. 24); Letter from U.S. Representative Dan Kildee, U.S. Representative, to Adm'r Gina McCarthy, U.S. EPA, and Director Dan Wyant, MDEQ (Sept. 9, 2015) (attached as Ex. 25).

²⁴ Flint's water system is a "public water system" for purposes of the SDWA because it provides water for human consumption to more than twenty-five individuals. 42 U.S.C. § 300f(4).

²⁵ *Flint Town Hall Meeting Presentation and Distribution of lead results across Flint by ward and zip codes*, Flint Water Study (Sept. 16, 2015), <http://flintwaterstudy.org/2015/09/distribution-of-lead-results-across-flint-by-ward-and-zip-codes/> (attached as Ex. 26); Siddhartha Roy, *Flint Water Study Updates for the Citizens of Flint* (Sept. 15, 2015) (attached as Ex. 27); Ron Fonger, *Virginia Tech professor says Flint's tests for lead in water can't be trusted*, Michigan Live, Sept. 15, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/virginia_tech_researcher_says.html (attached as Ex. 28).

²⁶ *Lead testing results for water sampled by residents*, Flint Water Study, <http://flintwaterstudy.org/information-for-flint-residents/results-for-citizen-testing-for-lead-300-kits/> (attached as Ex. 29).

²⁷ See 42 U.S.C. § 300f(6).

²⁸ 40 C.F.R. § 141.86(a)(3)-(5); 56 Fed. Reg. 26,460, 26,514 (June 7, 1991) (adopting approach that "require[s] water systems to collect samples from high-risk residences that are most likely to have lead problems").

uniform and adequate levels of public health protection.”²⁹ Because targeting high-risk residences “means that the detected levels will likely be higher than if sampling were randomly distributed,”³⁰ Edwards’ data showing a 90th percentile lead level of 25 ppb is particularly alarming given that his sampling protocol would be expected to produce *lower* results than the targeted sampling protocol mandated by the Lead and Copper Rule.

The City’s monitoring data confirm that some Flint residents’ water contains lead at concentrations above the federal action level. Several samples collected by the City showed lead levels as high as 397 ppb, 25 times the action level.³¹ Although the City claims that its data show that the 90th percentile lead concentration is lower than the 90th percentile in Edwards’ sampling pool, these differences may be attributable to the sampling methods employed by the City. For instance, the City instructed residents to pre-flush their water for “at least 5 minutes” before collecting the sample.³² Pre-flushing has the effect of reducing the amount of lead in the sample, which is why one of the key steps residents can take to reduce their lead exposure following discovery of a lead problem is to flush their taps prior to consuming tap water.³³ Pre-flushing in sampling results in “significant underestimation of lead levels in drinking water.”³⁴ Pre-flushing is not included in the collection procedures EPA recommends,³⁵ and is contrary to the Lead and Copper Rule’s intent to use worst-case lead and copper sampling data.³⁶ Evidence also shows that in the January to June 2015 monitoring period, the City did not use a pre-developed sampling pool that targeted high-

²⁹ 56 Fed. Reg. at 26,514.

³⁰ *Id.*

³¹ See Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ (Mar. 18, 2015) (referring to sample with lead level at 397 ppb) (attached as Ex. 30); Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, et al. (June 4, 2015) (referring to samples showing lead levels 22 ppb and 40 ppb) (attached as Ex. 31); Consumer Notice of Lead & Copper Results in Drinking Water (Feb. 18, 2015) (lead level at 104 ppb) (attached as Ex. 32); see also Mich. Dep’t of Env’tl. Quality, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Aug. 20, 2015) (showing six samples with lead levels over the action level (attached as Ex. 33).

³² Drinking Water Lead & Copper Sampling Instructions, *available at* http://www.michigan.gov/documents/deq/Lead_Copper_Sampling_Instructions_329915_7.pdf (attached as Ex. 34).

³³ Memorandum from Miguel A. Del Toral, Regulations Mgr., Ground Water and Drinking Water Branch, U.S. EPA Region 5, to Thomas Poy, Chief, Ground Water and Drinking Water Branch, U.S. EPA Region 5, re High Levels in Flint, Michigan—Interim Report 2 (June 24, 2015) (attached as Ex. 35).

³⁴ *Id.*

³⁵ U.S. EPA, Lead and Copper Rules Monitoring and Reporting Guidance for Public Water Systems 28 (Mar. 2010) (attached as Ex. 36).

³⁶ See Letter from Cynthia C. Dougherty, U.S. EPA, to Ralph Scott, Alliance for Healthy Homes (Sept. 12, 2008) (“[W]e believe that [pre-flushing] goes against the intent of the monitoring protocol, since it changes the normal water use of the homeowners in the sample.”) (attached as Ex. 37).

risk residences and did not sample sites consistently across monitoring periods.³⁷ This likewise may have caused the City's sampling results to underrepresent the 90th percentile lead level in the water system.³⁸

The lead contamination in Flint's water is likely to continue. As EPA has explained, "[t]he amount of lead in drinking water depends heavily on the corrosivity of the water,"³⁹ and testing has shown that Flint River water is highly corrosive. Moreover, the City has no treatment program in place to control the corrosive effects of the water on the City's thousands of lead service lines.⁴⁰

B. Lead in drinking water presents an imminent and substantial endangerment to Flint residents

The endangerment to Flint residents from lead in drinking water is both "imminent" and "substantial."⁴¹ The endangerment to community members' health is imminent because the threat "is present *now*."⁴² Highly corrosive water in the Flint River has been flowing through lead service lines in Flint's water system for more than a year without any corrosion control treatment, and sampling has already shown the existence of dangerously high levels of lead in residents' tap water.

The seriousness of the potential harms from lead exposure renders the endangerment "substantial" for purposes of the SDWA.⁴³ The poisonous effects of lead on "virtually every system in the body," and particularly on the developing brains of young children, are well documented.⁴⁴ "Even low levels of lead in blood have been shown to affect IQ, ability to pay attention, and academic achievement," effects that are irreversible.⁴⁵

³⁷ See *infra* p. 11 & nn. 70-74; 40 C.F.R. § 141.86(a), (b)(4).

³⁸ See *infra* p. 11-12.

³⁹ 56 Fed. Reg. 26,460, 26,466 (June 7, 1991).

⁴⁰ MDEQ, Frequently Asked Questions: Water Lead Levels in the City of Flint (Sept. 2015), https://www.michigan.gov/documents/deq/deq-spotlight-Flint_water_FAQs_500946_7.pdf (stating that Flint has more than 15,000 lead service lines) (attached as Ex. 38).

⁴¹ *Id.* § 300i.

⁴² *Meghrig v. KFC Western, Inc.*, 516 U.S. 479, 486 (1996) (interpreting substantial-and-imminent-endangerment provision in RCRA).

⁴³ *E.g., Me. People's Alliance v. Mallinckrodt, Inc.*, 471 F.3d 277, 288 (1st Cir. 2006).

⁴⁴ Centers for Disease Control and Prevention, Preventing Lead Poisoning in Your Children: Chapter 2 (Oct. 1991), <http://www.cdc.gov/nceh/lead/publications/books/plpyc/chapter2.htm> (attached as Ex. 39); see also 80 Fed. Reg. 278, 290 (Jan. 5, 2015) ("Lead has been demonstrated to exert a broad array of deleterious effects on multiple organ systems."); 56 Fed. Reg. 26,460, 26,467-68 (June 7, 1991).

⁴⁵ Centers for Disease Control and Prevention, *What Do Parents Need to Know to Protect Their Children?* (last updated June 19, 2014), http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm (attached as Ex. 40).

The scientific community has not identified *any* threshold of lead in blood below which there are no adverse health impacts.⁴⁶

Increased lead exposure from drinking water is dangerous because “drinking water can make up 20 percent or more of a person’s total exposure to lead.”⁴⁷ For infants whose diet consists of baby formula made with drinking water, lead in drinking water can make up between forty and sixty percent of total lead exposure.⁴⁸ Lead levels in drinking water above the federal action level have been associated with an increase in the rate of individuals with elevated blood lead levels.⁴⁹ Exposure to lead-contaminated drinking water has also been associated with fetal death and reduced birth rates.⁵⁰ As EPA has recognized, “[i]nfants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development.”⁵¹ In short, there is no safe level of lead in drinking water.⁵²

⁴⁶ Centers for Disease Control and Prevention, National Biomonitoring Program, Factsheet: Lead (last updated Jul. 12, 2013), http://www.cdc.gov/biomonitoring/Lead_Fact_Sheet.html (“No safe blood lead level has been identified.”) (attached as Ex. 41).

⁴⁷ U.S. EPA, Lead and Copper Rule: A Quick Reference Guide for Schools and Child Care Facilities that are Regulated Under the Safe Drinking Water Act (Oct. 2005), http://www.epa.gov/safewater/schools/pdfs/lead/qrg_lcr_schools.pdf (attached as Ex. 42).

⁴⁸ Lead in Drinking Water, Wisc. Dep’t of Nat. Res. 2008), <http://dnr.wi.gov/topic/drinkingwater/documents/forms/lead.pdf> (attached as Ex. 43). Several cases have also been reported in which infant formula constituted from lead-contaminated tap water was determined to be the sole cause of childhood lead poisoning. *See, e.g.*, Michael Shannon & John W. Graef, *Lead Intoxication: From Lead-contaminated Water Used to Reconstitute Infant Formula*, 28 *Clinical Pediatrics* (8) 380, 381 (1989) (attached as Ex. 44).

⁴⁹ Ronnie Levin, et al., *Lead Exposures in U.S. Children, 2008: Implications for Prevention*, 116 *Environ. Health Perspect.* (1) 1285-93 (2008), available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2569084/> (attached as Ex. 45); CDC, *Blood Lead Levels in Residents of Homes with Elevated Lead in Tap Water—District of Columbia, 2004*, 53 *MMWR Weekly* (No. 12) 268-70 (Apr. 2, 2004), available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5312a6.htm> (attached as Ex. 46).

⁵⁰ Marc Edwards, *Fetal Death and Reduced Birth Rates Associated with Exposure to Lead-Contaminated Drinking Water*, 48 *Envtl. Sci. & Tech.* 739-40 (2013), available at <http://pubs.acs.org/doi/pdf/10.1021/es4034952> (attached as Ex. 47).

⁵¹ U.S. EPA, Basic Information about Lead in Drinking Water, *supra* note 11.

⁵² *See* Email from Jennifer Crooks, U.S. EPA, to Mike Prysby, MDEQ (Feb. 26, 2015) (“[T]here are no safe levels of lead in drinking water.”) (attached as Ex. 48); City of Flint Issues Lead Advisory, *supra* note 13 (recognizing that “no level of lead is considered safe”). Because no safe level of lead in blood has been identified, EPA promulgated a Maximum Contaminant Level Goal for lead in drinking water of *zero*, reflecting EPA’s determination that a threshold of zero lead in drinking water is the level at which “no known or anticipated adverse effects” on human health will occur, allowing for a margin of safety. *See* 40 C.F.R. §§ 141.2, 141.51(b).

Petitioners have reason to be concerned about the health impacts of increased exposure to lead in drinking water. A recent study conducted by researchers at Flint's Hurley Medical Center found that the rate of Flint children with elevated blood lead levels is rising. An analysis of 1746 Flint children under five years old showed that the proportion of children with elevated blood lead levels has *doubled* in the time since the City changed its drinking water source.⁵³ The study found that the rate of elevated blood lead levels in children under fifteen months is 2.5 times greater after the switch to Flint River water than the rate before the switch.⁵⁴ The study found no corresponding statistically significant increase in the rate of elevated blood lead levels of children living in Genesee County outside of Flint.⁵⁵ Data released by the State confirm that the percentage of Flint children under sixteen with elevated blood levels has risen (from 2.37% to 3.21%) since the switch to Flint River water.⁵⁶

This increased rate of children with elevated blood lead levels is even more alarming because the Flint community may be more at risk for elevated blood lead levels and lead poisoning than communities elsewhere in the country. Michigan ranks fifth worst in the country for harmful exposures to lead.⁵⁷ Low income is a risk factor for lead poisoning, and the proportion of families living below the poverty level in Flint is more than three times the national proportion (35.5% in Flint vs. 11.3% nationally in 2013 estimates).⁵⁸ Living in housing built before 1978 (when the federal ban on high-lead paint went into effect) is also a risk factor, because dust from lead paint continues to be a major source of lead exposure in children.⁵⁹ Nearly 90% of housing in Flint was built before

⁵³ Pediatric Lead Exposure in Flint, MI: Concerns from the Medical Community (PowerPoint Presentation), *available at* <http://flintwaterstudy.org/2015/09/pediatric-lead-exposure-presentation-from-hurley-medical-center-doctors-concerning-flint-mi/> (attached as Ex. 49).

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ Kristi Tanner & Nancy Kaffer, *State data confirms higher blood-lead levels in Flint kids*, Detroit Free Press, Sept. 29, 2015, <http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/09/26/state-data-flint-lead/72820798/> (attached as Ex. 50).

⁵⁷ Centers for Disease Control and Prevention, *Public Health in Action: Lead Poisoning Prevention in Michigan* (last updated Feb. 4, 2013), http://www.cdc.gov/nceh/information/healthy_homes_lead.htm (attached as Ex. 51).

⁵⁸ 2009-2013 American Community Survey 5-year Estimates, 2013, *available at* <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml> (enter "Flint, MI" in the box under "Community Facts," click on "Income" on left-side bar, then click "Selected Economic Characteristics" under "2013 American Community Survey") (table attached as Ex. 52 compares data from Flint, MI to Michigan and the United States).

⁵⁹ *See, e.g.,* Am. Cancer Soc'y, *Lead, Lead in the Environment*, <http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/lead> (last updated May 27, 2014) (characterizing lead paint as a "major" source of exposure) (attached as Ex. 53).

1978.⁶⁰ These factors show that the risks to Flint residents from lead exposure may be particularly acute.

The monitoring data showing high lead levels in Flint drinking water, combined with the well-known serious adverse health impacts of lead exposure, demonstrate “a substantial likelihood that contaminants capable of causing adverse health effects will be ingested by consumers if preventive action is not taken.”⁶¹ These circumstances constitute an imminent and substantial endangerment warranting emergency federal action.⁶²

IV. Neither the City nor MDEQ has acted to protect Flint residents from continuing health risks of exposure to high lead levels in drinking water

Federal emergency action is necessary because neither the City nor MDEQ has adequately addressed the danger to Flint residents from lead in their drinking water. To date, the local and state response to lead concerns has been, at best, nominal and ineffective.⁶³

The state-appointed emergency manager and MDEQ allowed the City to begin using the Flint River as its water source without adequately ensuring that the system would continue to “operate and maintain optimal corrosion control treatment,” as required by the SDWA.⁶⁴ The Lead and Copper Rule requires states to “review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system.”⁶⁵ But as of March 28, 2014, three weeks before the City planned to start using Flint River water, the City had not even submitted an application to the State for approval to make the change.⁶⁶ A month later, MDEQ had approved the change without requiring the City to implement corrosion control measures, as required by the Lead and

⁶⁰ 2012 Annual Data Report on Blood Lead Levels of Children in Michigan 26 (Apr. 2013), https://www.michigan.gov/documents/mdch/2012AnnualDataReportOnBloodLeadLevels_419508_7.pdf (attached as Ex. 54); see CPSC, *CPSC Announces Final Ban on Lead-Containing Paint* (Sept. 2, 1977), <http://www.cpsc.gov/en/Recalls/1977/CPSC-Announces-Final-Ban-On-Lead-Containing-Paint/> (attached as Ex. 55); Maj. Thomas F. Zimmerman, *The Regulation of Lead-Based Paint in Air Force Housing*, 44 Air Force L. Rev. 169, 175 (1998).

⁶¹ H.R. Rep. No. 93-1185, 1974 U.S.C.A.A.N. 6454, 6488 (July 10, Aug. 15, 1974) (defining when an endangerment may be considered substantial).

⁶² See *Trinity Am. Corp. v. U.S. E.P.A.*, 150 F.3d 389, 399 (4th Cir. 1998) (imminent and substantial endangerment found when “dangerous levels of [a] contaminant[] exist in [the] water supply,” and that the contaminant “pose[s] a great risk to human health”).

⁶³ See *id.* at 397 (explaining that “minor” and “ineffective” action by state and local authorities does not “strip EPA of its statutory emergency powers”).

⁶⁴ 40 C.F.R. § 141.81(b).

⁶⁵ 40 C.F.R. § 141.81(b)(3)(iii).

⁶⁶ Dominic Adams, *State says Flint hasn’t applied for permit to use river as drinking water source*, Michigan Live, Mar. 28, 2014, http://www.mlive.com/news/flint/index.ssf/2014/03/state_says_flint_hasnt_applied_1.html (attached as Ex. 56).

Copper Rule.⁶⁷ When EPA inquired about what the City was doing to control corrosion, MDEQ falsely stated that the City was already operating an “Optimized Corrosion Control Program.”⁶⁸ The opposite was true: as the State later admitted, the City had not implemented any corrosion control treatment measures (and still has not done so).⁶⁹

Further, evidence indicates that the City and MDEQ are either unwilling or unable to conduct tap water monitoring for lead in compliance with federal regulations. As discussed above, statements by a Flint Utilities Administrator suggest that the City did not identify a sampling pool prior to conducting monitoring, as federal law expressly requires. Instead, the Department of Public Works “just thr[ew] out bottles everywhere just to collect as many [samples] as we c[ould].”⁷⁰ The City even asked its own employees and their “family/friends who live in the city” to participate in the sampling group.⁷¹

The City also may not have complied with requirements for targeting high-risk homes, including the requirement that 50% of sampled sites contain lead pipes or copper pipes with lead solder.⁷² The City’s Utilities Administrator conceded that the City was “not really” able to determine that every residence sampled had lead pipes, even though this was what the City affirmatively reported to MDEQ in a monitoring compliance report.⁷³ Further, the City’s monitoring compliance report shows that the City did not meet the deadline to submit its monitoring results and did not comply with the requirement to sample the same sites across monitoring periods.⁷⁴ During the January to June 2015 monitoring period, the City initially sought to obtain 100 samples.⁷⁵ After the City failed to collect that number, MDEQ decided that only sixty samples were required.⁷⁶

⁶⁷ See 40 C.F.R. § 141.81(a)-(b).

⁶⁸ See Email from Stephen Busch, MDEQ, to Jennifer Crooks and Miguel Del Toral, U.S. EPA (Feb. 27, 2015) (“The City of Flint . . . [h]as an Optimized Corrosion Control Program[.]”) (attached as Ex. 57).

⁶⁹ Email from Pat Cook, MDEQ, to Miguel Del Toral, U.S. EPA (Apr. 24, 2015) (“Flint is not currently practicing corrosion control treatment at the [Water Treatment Plant].”) (attached as Ex. 58).

⁷⁰ See 40 C.F.R. § 141.86(a)(1); *Thirst for Truth: Who’s to Blame for Flint Water Crisis?* (ACLU of Michigan, Jul. 28, 2015), available at <https://www.youtube.com/watch?t=9&v=LT09irD2f0Y> (statement of Michael Glasgow, Utilities Administrator).

⁷¹ Email from Michael Glasgow (June 1, 2015) (attached as Ex. 59).

⁷² 40 C.F.R. § 141.86(a)(8).

⁷³ *Thirst for Truth*, supra note 70 (statement of Michael Glasgow, Utilities Administrator, at 5:30-5:45).

⁷⁴ City of Flint Water Plant, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Jul. 28, 2015) (checking “no” box in response to question asking whether City used the same sampling sites as the previous monitoring period) (attached as Ex. 60); see 40 C.F.R. §§ 141.86(b)(4); 141.90(a)(1).

⁷⁵ See Email from Adam Rosenthal, MDEQ, to Michael Glasgow, Brent Wright, City of Flint (June 25, 2015) (attached as Ex. 61).

⁷⁶ *Compare id.* (“We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results,

Compliance with the SDWA's monitoring requirements is critical to accurately assessing the levels of lead in Flint's water, and to ensuring implementation of the drinking water standards set forth in the Lead and Copper Rule. Although the serious apparent flaws in the City's testing procedures call into question whether the City is complying with the SDWA, both the City and MDEQ continue to maintain that Flint's water "is meeting state and federal drinking water standards."⁷⁷

Neither the City nor MDEQ has taken measures to broadly provide an alternative, free source of safe drinking water to residents. Instead, state and local authorities have dismissed citizen concerns about lead in drinking water as "near-hysteri[cal]" and "irresponsible."⁷⁸ City officials have encouraged residents to install in-home water filters, flush their taps before using the water, and send their children to school with bottled water, all at the residents' own expense, which is alarming given that there are roughly 14,000 households in Flint with children under 18, and nearly three-quarters of the children in those households receive Supplemental Security Income (SSI), cash public assistance income, or Food Stamp/SNAP benefits.⁷⁹ These remedies are inadequate: filters are expensive, may clog quickly, are of varying effectiveness at removing lead, and require

Flint's 90th percentile is over the AL for lead."), *with* City of Flint, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply, *supra* note 31, at 1 ("Revised report after conference call with DEQ staff . . . [D]ue to population the number of samples required was reduced to 60.").

⁷⁷ Letter from MDEQ to MI State Senators 2 (Sept. 17, 2015) (attached as Ex. 62); City of Flint, *City of Flint Issues Lead Advisory*, *supra* note 13 ("[T]he City is in full compliance with the Federal Safe Drinking Water Act.").

⁷⁸ *Did this Michigan Town Poison its Children?*, U.S. News & World Report, Sept. 24, 2015, <http://www.usnews.com/news/articles/2015/09/25/flint-michigan-children-show-high-levels-of-lead-in-blood> (attached as Ex. 63); Ron Fonger, *Feds sending in experts to help Flint keep lead out of water*, Michigan Live, Sept. 10, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/university_researchers_dont_dr.html (attached as Ex. 64). The City's statement that it will "work with [MDEQ] on implementing water optimization measures to reduce the corrosive effects of water on older pipes" by 2016 is a hollow promise given the present and continuing exposure to lead and lead's irreversible effects on human health. Ron Fonger, *Flint will have lead-reduction plan for water system by 2016, officials say*, Michigan Live, Sept. 3, 2015, <http://www.mlive.com/news/flint/index.ssf/2015/09/mayor.html> (attached as Ex. 65).

⁷⁹ City of Flint, *City of Flint Issues Lead Advisory*, *supra* note 13; Amanda Emery, *Flint public school students told to bring own water to school*, Michigan Live, Sept. 25, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/flint_community_schools_asks_s.html (attached as Ex. 66); *see* factfinder.census.gov (2010 data) (enter "Flint, MI" in box under "Community Facts," then click "General Population and Housing Characteristics" under "2010 Census") (attached as Ex. 67); 2009-2013 American Community Survey 5-Year Estimates, Children's Characteristics (2013 estimate), factfinder.census.gov (enter "Flint, MI" in box under "Community Facts," then click "Poverty" on left-side bar, then click "Children Characteristics") (attached as Ex. 68).

ongoing maintenance. Pre-flushing is also imperfect, does not always eliminate lead, and may be prohibitively expensive for many families given Flint's high water rates.⁸⁰

The City's and State's apparent lapses in regulatory compliance, and their failure to take responsibility for responding to the City's lead problems, demand federal intervention.

V. EPA should act immediately to adequately address the public health emergency created by lead in Flint drinking water

Petitioners urge EPA to take all actions necessary to abate the endangerment presented by lead in Flint's drinking water, and to inform Flint residents about the potential hazards of drinking the City's tap water. At minimum, Petitioners request that EPA:

- Immediately order the City and MDEQ to reconnect Flint's water system with water from the Detroit Water and Sewerage Department. EPA should work with the City of Flint, MDEQ, and the Detroit Water and Sewerage Department to facilitate this renewed connection as soon as possible.
- Immediately provide Flint residents with an alternative, free source of safe drinking water that meets EPA standards. This may include providing customers with free bottled water or providing (and routinely maintaining) free in-home and replacement filters that are certified to remove lead by NSF International.⁸¹
- Immediately order the City to advise all Flint water customers to avoid consuming unfiltered water from the City's water system. The notice should warn customers not to use unfiltered Flint water to make baby formula or for children. The notice should inform customers that if they have no alternative water source, they should flush Flint water for *a minimum* of five minutes before

⁸⁰ Dominic Adams, *Flint monthly water and sewer bills highest in Genesee County by \$35*, Michigan Live, June 1, 2014, http://www.mlive.com/news/flint/index.ssf/2014/06/post_386.html (citing Flint bills at \$140/month) (attached as Ex. 69). A state-court judge recently ruled that the Emergency Manager's decision to significantly raise water rates was unlawful. Ron Fonger, *Judge orders Flint to cut water rates 30% in sweeping injunction*, Michigan Live, Aug. 7, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/flint_ordered_to_cut_water_rat.html (attached as Ex. 70).

⁸¹ See U.S. EPA, Planning for an Emergency Drinking Water Supply (June 2011) (provision of bottled water is a "common federal response" in emergencies) (attached as Ex. 71); cf. 40 C.F.R. § 141.101 (allowing public water systems to use bottled water on a temporary basis "to avoid unreasonable risk to health"); U.S. EPA, Memorandum re: Update on Providing Alternative Water Supply as Part of Superfund Response Actions (Sept. 24, 2010), <http://www.epa.gov/superfund/health/conmedia/gwdocs/pdfs/610732.pdf> (allowing delivery of bottled water on a temporary basis in certain circumstances in CERCLA removal or remediation actions) (attached as Ex. 72).

use. EPA should prohibit the City from charging water customers for this flushing time.

- Use its authority under 40 C.F.R. §§ 142.19 and 141.82(i) to review MDEQ's determinations concerning corrosion control requirements for the Flint water system, and issue a federal order establishing the optimal corrosion control treatment requirements for the Flint water system and requiring Flint to immediately comply with these requirements.
- Order the City to conduct continued monitoring for lead and copper in six-month periods in accordance with the procedures set forth in 40 C.F.R. § 141.86. EPA should directly oversee the City's monitoring by ordering the City to submit a Quality Assurance Project Plan (QAPP) to ensure that all information, sample collection, analytical data and resulting decisions are technically sound, scientifically valid, and properly administered. EPA must approve the City's QAPP before the City conducts any additional monitoring. EPA should prohibit the City from conducting reduced monitoring under 40 C.F.R. § 141.86(d)(4) for at least five years.
- Order the City to comply with the public education and supplemental monitoring requirements in 40 C.F.R. § 141.85, including but not limited to immediately notifying consumers of the results of tests completed at their homes or places of business, and providing the public education, monitoring, and notification established in those rules.
- Order any other additional relief that EPA determines is "necessary to protect the health" of Flint residents from lead contamination in drinking water.

VI. Conclusion

For the foregoing reasons, Petitioners respectfully request that EPA take the actions necessary to abate the imminent and substantial endangerment to Flint residents' health from lead contamination in their drinking water.

Dated: October 1, 2015

Respectfully Submitted,

/s/ Pastor Allen Overton

Pastor Allen Overton

COALITION FOR CLEAN WATER

/s/ Pastor Alfred Harris

Pastor Alfred Harris

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Melissa Mays

LeeAnne Walters

WATER YOU FIGHTING FOR

/s/ Claire McClinton

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DEMOCRACY DEFENSE LEAGUE WATER TASK FORCE

/s/ Marc Edwards

Marc Edwards, CEE

Siddhartha Roy

FLINT WATER STUDY TEAM

/s/ Dawn Kettinger

Dawn Kettinger

MICHIGAN NURSES ASSOCIATION

/s/ Yvonne M. White

Yvonne M. White

NAACP – Michigan State Conference

/s/ Jeffrey L. Edison

Jeffrey L. Edison

**MICHIGAN CHAPTER OF THE NATIONAL
CONFERENCE OF BLACK LAWYERS**

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To: AO OPA Media Relations[AO_OPA_Media_Relations@epa.gov]
From: Daguillard, Robert
Sent: Thur 10/1/2015 7:13:51 PM
Subject: RESENDING: Robert's Daily Wrap 10/1/2015

Air

Nonresponsive

Environmental Information

Nonresponsive

Water

Nonresponsive

Nonresponsive

Michigan Public Radio [Received 10/1] – OPEN – Flint, MI drinking water system corrosion control;
awaiting info from reporter – 10/2

Nonresponsive

To: AO OPA Media Relations[AO_OPA_Media_Relations@epa.gov]
From: Daguillard, Robert
Sent: Thur 10/1/2015 7:13:04 PM
Subject: Robert's Daily Wrap 10/1/2015

Air

Nonresponsive

Environmental Information

Nonresponsive

Water

Nonresponsive

Michigan Public Radio [Received 10/1] – OPEN – Flint, MI drinking water system corrosion control;
awaiting info from reporter – 10/2

Nonresponsive

To: Frey, Bert[frey.bertram@epa.gov]; Lupton, Jane[lupton.jane@epa.gov]; Lee, Sandra[lee.sandra@epa.gov]
From: Glowacki, Joanna
Sent: Thur 10/1/2015 7:28:41 PM
Subject: FW: Detroit data in SDWIS -- MDEQ notes that Detroit is not a (b)(3) system under the LCR

FYI, on the question of whether Detroit and Flint were considered a 141.81(b)(3) system.

Joanna S. Glowacki

Associate Regional Counsel

U.S. Environmental Protection Agency

Region 5

77 West Jackson Boulevard (C-14J)

Chicago, Illinois 60604

312-353-3757

312-385-5464 fax

From: Shoven, Heather
Sent: Thursday, October 01, 2015 12:38 PM
To: Moriarty, Edward; Viveiros, Edward; Banks, Victoria; Darman, Leslie; Kempic, Jeffrey; Glowacki, Joanna; Lopez-Carbo, Maria; King, Carol
Cc: Porter, Andrea; Crooks, Jennifer; Deltoral, Miguel; Bair, Rita; Poy, Thomas; Damato, Nicholas
Subject: FYI: Detroit data in SDWIS -- MDEQ notes that Detroit is not a (b)(3) system under the LCR

Hello OECA, OGWDW, OGC, and ORC Colleagues,

I am forwarding Michigan DEQ's response to Region 5's inquiry as to whether MDEQ considered Detroit to be a (b)(3) system under LCR since b3 status was reported to SDWIS. MDEQ stated that the SDWIS data is incorrect and Detroit is not considered to be a (b)(3) system since it was optimized with the installation of CCT.

Thanks,

Heather

From: Donaldson, Kristina (DEQ) [<mailto:DONALDSONK@michigan.gov>]
Sent: Thursday, October 01, 2015 10:25 AM
To: Crooks, Jennifer
Cc: Shoven, Heather; Porter, Andrea; Philip, Kris (DEQ)
Subject: RE: Detroit data in SDWIS

Hi Jennifer,

You are correct that there is an error. Detroit did install corrosion control in the 1990s, it was demonstrated as optimized and in 1999 we established water quality parameters for the city.

We plan to review the SDWIS entries and make corrections as needed before the next data submission.

Thanks!

Kris Donaldson, P.E.

District Supervisor

Office of Drinking Water & Municipal Assistance

Michigan Department of Environmental Quality

27700 Donald Court

Warren, MI 48092

ph. 586-753-3759

fax. 586-753-3831

From: Crooks, Jennifer [<mailto:crooks.jennifer@epa.gov>]
Sent: Tuesday, September 29, 2015 3:20 PM
To: Donaldson, Kristina (DEQ)
Cc: Shoven, Heather; Porter, Andrea; Philip, Kris (DEQ)
Subject: Detroit data in SDWIS

Hi, Kris. We were looking at Detroit data in SDWIS this morning, and I'm not sure about some data—see below. Under “Event Milestone Description”, it says about Detroit “System deemed optimized without Optimal Corrosion Control Treatment (OCCT)”, and the reason was “B3”, which is Michigan rule 604f(2)(b)(iii). But I thought that Detroit did exceed the PQL (5ppb) back in the early 90's and that the City did install CCT, so it can't be a B3. Detroit used the Modified Consecutive System approach in the early 90's to collect data from all the sampling at consecutive systems, so it could evaluate the water as a single system. So, I think the above 2 data entries (seen below) are incorrect?

Thank you, Kris.

Jennifer

From: Porter, Andrea
Sent: Tuesday, September 29, 2015 12:34 PM
To: Crooks, Jennifer
Subject: FW: flint --> lcr milestone data in sdwis/fed (no info for flint; deem for detroit)

fyi

PWSID	NAME	EVENT DATE	EVENT TIME	LOCATION	STATUS	REASON
DETROIT MI000180011 OF		6/30/1999	5/19/2004	DEEM	System deemed optimized without OCCT	B3 Serving greater than 50,000: met action levels

Thanks,

Andrea Porter

Environmental Engineer

Ground Water & Drinking Water Branch

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77 W. Jackson Blvd.

Chicago, IL 60604

Phone: 312-886-4427

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**BEFORE THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

Petition for Emergency Action under the Safe Drinking Water Act, 42 U.S.C. § 300i, to Abate
the Imminent and Substantial Endangerment to Flint, Michigan Residents from Lead
Contamination in Drinking Water

**Submitted on Behalf of Petitioners Coalition for Clean Water, Concerned Pastors for
Social Action, Water You Fighting For, Democracy Defense League Water Task Force,
Flint Water Study Team, Michigan Nurses Association, NAACP – Michigan State
Conference, Michigan Chapter of the National Conference of Black Lawyers, American
Civil Liberties Union of Michigan, and the Natural Resources Defense Council**

October 1, 2015

Notice of Petition

Gina McCarthy
Administrator
U.S. Environmental Protection Agency
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Mail Code: 1101A
Washington, DC 20460

Susan Hedman
Regional Administrator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Mail Code: R-19J
Chicago, IL 60604-3507

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58. Email from Pat Cook, MDEQ, to Miguel Del Toral, U.S. EPA (Apr. 24, 2015)
59. Email from Michael Glasgow (June 1, 2015)
60. City of Flint Water Plant, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Jul. 28, 2015)
61. Email from Adam Rosenthal, MDEQ, to Michael Glasgow, Brent Wright, City of Flint (June 25, 2015)
62. Letter from MDEQ to MI State Senators (Sept. 17, 2015)
63. *Did this Michigan Town Poison its Children?*, U.S. News & World Report (Sept. 24, 2015)
64. Ron Fonger, *Feds sending in experts to help Flint keep lead out of water*, Michigan Live (Sept. 10, 2015)
65. Ron Fonger, *Flint will have lead-reduction plan for water system by 2016, officials say*, Michigan Live (Sept. 3, 2015)
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The residents of Flint, Michigan have been and continue to be exposed to dangerous levels of lead in their drinking water. Monitoring results confirm that, in many instances, these levels are well above the threshold set by the U.S. Environmental Protection Agency (EPA) that triggers mandatory corrective action by public water systems. The City of Flint and the Michigan Department of Environmental Quality (MDEQ) have failed to address this public health crisis, despite their awareness of these monitoring results and data showing increasing blood lead levels in children residing in Flint.

The Coalition for Clean Water, Concerned Pastors for Social Action, Water You Fighting For, Democracy Defense League Water Task Force, Flint Water Study Team, Michigan Nurses Association, NAACP – Michigan State Conference, Michigan Chapter of the National Conference of Black Lawyers, American Civil Liberties Union of Michigan, and Natural Resources Defense Council (collectively, Petitioners) petition EPA to use its emergency powers under the Safe Drinking Water Act (SDWA or the Act), 42 U.S.C. § 300i, to take action to abate the imminent and substantial endangerment to human health caused by lead contamination in Flint’s drinking water. As Petitioners demonstrate below, this contamination meets the SDWA requirements for immediate action by EPA and requires a comprehensive federal response.

I. Background

Water-quality problems have plagued Flint’s water system since at least April 2014, when the City began using the Flint River as its water source after deciding not to continue purchasing water from Lake Huron through the Detroit Water and Sewerage Department, as it had done for nearly fifty years.¹ In the eighteen months since the switch to Flint River water, the City’s drinking water has been at times discolored, foul smelling, and “laden with sediments.”² Residents report that they have experienced hair loss, skin rashes, and vomiting after drinking the water.³ In the summer of 2014, the City was forced to issue several boil-water notices after tap water tested positive for total coliform bacteria, which

¹ See Dominic Adams, *Closing the valve on history: Flint cuts water flow from Detroit after nearly 50 years*, Michigan Live, Apr. 25, 2014, http://www.mlive.com/news/flint/index.ssf/2014/04/closing_the_valve_on_history_f.html (attached as Ex. 1); Letter from Darnell Earley, Emergency Manager, to Sue McCormick, Detroit Water & Sewer Dep’t (Mar. 7, 2014) (explaining that the City “has actively pursued using the Flint River as a temporary water source” instead of accepting Detroit’s offer to “provide[] Flint with the option of continuing to purchase water from DWSD”) (attached as Ex. 2).

² See Curt Guyette, *In Flint, Michigan, Overpriced Water is Causing People’s Skin to Erupt in Rashes and Hair to Fall Out*, The Nation, July 16, 2015, <http://www.thenation.com/article/in-flint-michigan-overpriced-water-is-causing-peoples-skin-to-erupt-and-hair-to-fall-out/> (attached as Ex. 3); Wenonah Hauter, *Flint’s Brown Water Blues*, Huffington Post, July 10, 2015, http://www.huffingtonpost.com/wenonah-hauter/flints-brown-water-blues_b_7765132.html (attached as Ex. 4).

³ Laura Gottesdiener, *Flint, Mich., Residents find state water control hard to swallow*, Al Jazeera America, Apr. 3, 2015, <http://america.aljazeera.com/articles/2015/4/3/flint-residents-find-state-water-control-hard-to-swallow.html> (attached as Ex. 5).

suggested a possible “pathway for pathogens and fecal contamination” to enter the water system.⁴

The City’s subsequent treatment of the water to kill disease-carrying pathogens resulted in elevated levels of total trihalomethanes (TTHM), a byproduct of disinfection.⁵ Drinking water with TTHM levels that exceed the federal limit can cause “liver, kidney, or central nervous system problems and increased risk of cancer.”⁶ In response to the City’s water problems, local hospitals, schools, and museums began using bottled water instead of tap water.⁷ Some grocery stores reduced the price of bottled water and “sponsored community giveaways of bottled water to low income residents.”⁸

Flint River water is also highly corrosive, causing dangerous amounts of lead to leach out of pipes and into the City’s water system.⁹ Recent sampling has shown that lead is present in Flint’s water system at levels well above 15 parts per billion (ppb), the “action level” for lead under the SDWA.¹⁰ These high lead levels put residents at risk of increased lead exposure, which can cause a broad array of serious, irreversible health effects, including cognitive impairment, decreased red blood cell survival, kidney damage, coronary heart disease, and impaired reproductive function.¹¹

⁴ Ron Fonger, *Flint issues boil water advisory for section of the city after positive test result for total coliform bacteria*, Michigan Live, Sept. 5, 2014, http://www.mlive.com/news/flint/index.ssf/2014/09/flint_issues_boil_water_adviso.html (attached as Ex. 6).

⁵ Robin Erb, *Who wants to drink Flint’s water?*, Detroit Free Press, Jan. 23, 2015, <http://www.freep.com/story/news/local/michigan/2015/01/22/water-woes-latest-hit-flint/22193291/> (attached as Ex. 7); Mich. Dep’t of Env’tl. Quality, Violation Notice—Maximum Contaminant Level for Total Trihalomethanes (Dec. 16, 2014) (attached as Ex. 8).

⁶ U.S. EPA, Basic Information about Disinfection Byproducts in Drinking Water, <http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm> (last updated Dec. 13, 2013) (attached as Ex. 9); see 40 C.F.R. § 141.64(b).

⁷ Order Den. Mot. for Prelim. Inj. 1, *Coalition for Clean Water v. City of Flint*, No. 15-cv-12084 (E.D. Mich. June 23, 2015), ECF No. 6 (attached as Ex. 10).

⁸ *Id.*

⁹ Marc Edwards, *Flint River water 19X more corrosive than Detroit water for Lead Solder; Now What?*, Flint Water Study (Sept. 11, 2015), <http://flintwaterstudy.org/2015/09/test-update-flint-river-water-19x-more-corrosive-than-detroit-water-for-lead-solder-now-what/> (attached as Ex. 11); Marc Edwards, *Flint River water is very corrosive to lead, and causing lead contamination in homes*, Flint Water Study (Sept. 2, 2015), <http://flintwaterstudy.org/2015/09/flint-rivers-water-is-very-corrosive-to-lead-and-causing-lead-contamination-in-homes/> (attached as Ex. 12). The river water is so corrosive that in October 2014, a local GM engine plant decided to switch back to Lake Huron water to avoid damage to equipment at the plant from corrosion. Brianna Owczarzak, *GM says no to Flint water*, WNEM, Oct. 14, 2014, <http://www.wnem.com/story/26785625/gm-says-no-to-flint-water> (attached as Ex. 13).

¹⁰ 40 C.F.R. § 141.80(c)(1).

¹¹ See, e.g., U.S. EPA, Integrated Science Assessment for Lead tbl.ES-1 (June 2013) (attached as Ex. 14) (summarizing health effects of lead exposure); U.S. EPA, Basic

The City of Flint and the Michigan Department of Environmental Quality (MDEQ) have been aware of independent monitoring results showing exceedingly high lead levels in the City's drinking water for months.¹² Despite increasing public concern about the safety of the City's drinking water, neither the City nor MDEQ has taken the actions necessary to meaningfully address the problem. The City has not implemented *any* measures to treat the highly corrosive Flint River water to reduce the amount of lead leaching from service pipes.¹³ And MDEQ refuses to use its enforcement authority under the SDWA or state law to require Flint to employ corrosion control measures or provide alternative safe water supplies.¹⁴

When state and local authorities fail to adequately address a public health crisis, the SDWA empowers EPA to act. Section 1431 of the Act vests EPA with broad emergency authority to address endangerments to public health from contaminated drinking water. The EPA Administrator may use these emergency powers "upon receipt of information that a contaminant which is present in or is likely to enter a public water system . . . may present an imminent and substantial endangerment to the health of persons, and that appropriate State and local authorities have not acted to protect the health of such persons."¹⁵ Once the Administrator receives this information, she may "take such actions as [s]he may deem necessary in order to protect [public] health."¹⁶ These actions "may include (but shall not be limited to) . . . issuing such orders as may be necessary to protect the health of persons who are or may be users of such system (including travelers), including

Information About Lead in Drinking Water, <http://water.epa.gov/drink/contaminants/basicinformation/lead.cfm> (last updated June 26, 2015) (explaining that "[i]nfants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development," and that "[a]dults who drink this water over many years could develop kidney problems or high blood pressure") (attached as Ex. 15); *see also* National Ambient Air Quality Standards for Lead, 80 Fed. Reg. 278, 290 (Jan. 5, 2015).

¹² *See, e.g.*, Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, and Mike Prysby, MDEQ (Feb. 26, 2015) (describing "[b]ig worries" for high lead test results at a Flint resident's home) (attached as Ex. 16).

¹³ The City's plan to implement corrosion control measures within thirty to sixty days is inadequate to address the ongoing endangerment. *See* City of Flint, City of Flint Issues Lead Advisory (Sept. 25, 2015), <https://www.cityofflint.com/2015/09/25/city-of-flint-issues-lead-advisory/> (attached as Ex. 17).

¹⁴ *See* Mich. Comp. Laws Ann. §§ 325.1015(1) ("When considered necessary for protection of the public health, the department shall notify a supplier of water of the need to make changes in operations, to provide treatment, [or] to make structural changes in existing systems . . . as necessary to produce and distribute an adequate quantity of water meeting the state drinking water standards."), (3) ("If a public water supply poses an imminent hazard to the public health, the department may issue an emergency order immediately, . . . requiring such action as the department determines is necessary to protect the public health.").

¹⁵ 42 U.S.C. § 300i(a).

¹⁶ *Id.*

orders requiring the provision of alternative water supplies by persons who caused or contributed to the endangerment.”¹⁷ EPA has, in the past, used its emergency powers to issue orders to provide alternative safe water sources to community members, require public notice of the drinking water hazard, require contributors to the hazard to treat or otherwise mitigate the hazardous conditions, and require additional monitoring and data-collection activities.¹⁸

As Petitioners demonstrate below, the lead contamination in Flint’s drinking water meets the prerequisites that authorize EPA to take emergency action under the SDWA.

II. Interests of Petitioners

Petitioners are community groups and advocacy organizations seeking safe and clean water for all residents in Flint. For instance, the Coalition for Clean Water (Coalition), which includes Concerned Pastors for Social Action, Water You Fighting For, and Democracy Defense League Water Task Force, among other community members, has urged city and state officials for months to address Flint’s water-quality problems. The Coalition filed a lawsuit in June 2015 in the Circuit Court for the County of Genesee seeking declaratory, injunctive, and other relief relating to Flint’s water-quality problems.¹⁹ In August 2015, Food and Water Watch, Water You Fighting For, and the Coalition for Clean Water collected more than 26,000 signatures on a petition to Mayor Dayne Walling asking the City to end its use of the Flint River as a drinking water source.²⁰ Community members have also organized marches²¹ and met with City Council²² to raise concerns about the quality of Flint’s drinking water. These advocacy activities fueled awareness and concern

¹⁷ *Id.*

¹⁸ See H.R. Rep. No. 93-1185, 1974 U.S.C.C.A.N. 6454, 6487 (1974); *In re Yakima Valley Dairies*, Admin. Order on Consent (U.S. EPA Region 10, Mar. 5, 2013), http://www.epa.gov/region10/pdf/sites/yakimagw/consent_order_yakima_valley_dairies_march2013.pdf (attached as Ex. 18).

¹⁹ Compl., *Coalition for Clean Water v. City of Flint*, No. 104900-cz (Mich. Cir. Ct. June 5, 2015) (attached as Ex. 19).

²⁰ Ron Fonger, *Groups collect 26,000 signatures to end use of Flint River for Water*, Michigan Live, Aug. 31, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/groups_delivering_26000_signat.html#incart_river (attached as Ex. 20); Ron Fonger, *Flint mayor accepts petitions but not call to end use of Flint River*, Michigan Live, Aug. 31, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/flint_mayor_accepts_petitions.html (attached as Ex. 21).

²¹ William E. Ketchum III, *People take to streets to protest Flint water quality*, Michigan Live, Feb. 14, 2015, http://www.mlive.com/news/flint/index.ssf/2015/02/flint_residents_protest_citys.html (attached as Ex. 22).

²² AP, *Flint city councilman: ‘We got bad water,’* Detroit Free Press, Jan. 14, 2015, <http://www.freep.com/story/news/local/michigan/2015/01/14/flint-water-resident-complaints/21743465/> (attached as Ex. 23).

among residents and some elected officials in Flint,²³ but have not resulted in any comprehensive action by the City or the State.

III. Lead present in and likely to continue to enter Flint's water system presents an imminent and substantial endangerment to human health

A. Lead is present in and likely to continue to enter Flint's water system

Flint's residents face ongoing endangerment from lead in their drinking water. Recent sampling data show that dangerously high levels of lead are present in and will likely continue to enter Flint's water system.²⁴ In August and September 2015, Dr. Marc Edwards, a water resources engineering professor at Virginia Tech, tested 252 drinking water samples collected from Flint residences. Edwards found that *ten percent* of these samples had lead levels of 25 ppb or more, substantially in excess of the federal action level of 15 ppb.²⁵ Several samples exceeded 100 ppb, and one sample exceeded 1000 ppb.²⁶ Edwards' sampling data show that lead—a contaminant under the SDWA²⁷—is present in Flint's water system.

The results of Edwards' testing are even more concerning because the sampling did not target high-risk residences, as the City is required to do under the Lead and Copper Rule.²⁸ Because lead levels in a water system are not evenly distributed, EPA requires monitoring for lead under the SDWA to target high-risk residences, "to better ensure that high levels of lead are detected and that the system institutes treatment that provides

²³ See Letter from Jim Ananich, Mich. Sen. Minority Leader and Sheldon Neeley, Phil Phelps, Mich. State Representatives, to Dan Wyant, MDEQ (Sept. 10, 2015) (attached as Ex. 24); Letter from U.S. Representative Dan Kildee, U.S. Representative, to Adm'r Gina McCarthy, U.S. EPA, and Director Dan Wyant, MDEQ (Sept. 9, 2015) (attached as Ex. 25).

²⁴ Flint's water system is a "public water system" for purposes of the SDWA because it provides water for human consumption to more than twenty-five individuals. 42 U.S.C. § 300f(4).

²⁵ *Flint Town Hall Meeting Presentation and Distribution of lead results across Flint by ward and zip codes*, Flint Water Study (Sept. 16, 2015), <http://flintwaterstudy.org/2015/09/distribution-of-lead-results-across-flint-by-ward-and-zip-codes/> (attached as Ex. 26); Siddhartha Roy, *Flint Water Study Updates for the Citizens of Flint* (Sept. 15, 2015) (attached as Ex. 27); Ron Fonger, *Virginia Tech professor says Flint's tests for lead in water can't be trusted*, Michigan Live, Sept. 15, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/virginia_tech_researcher_says.html (attached as Ex. 28).

²⁶ *Lead testing results for water sampled by residents*, Flint Water Study, <http://flintwaterstudy.org/information-for-flint-residents/results-for-citizen-testing-for-lead-300-kits/> (attached as Ex. 29).

²⁷ See 42 U.S.C. § 300f(6).

²⁸ 40 C.F.R. § 141.86(a)(3)-(5); 56 Fed. Reg. 26,460, 26,514 (June 7, 1991) (adopting approach that "require[s] water systems to collect samples from high-risk residences that are most likely to have lead problems").

uniform and adequate levels of public health protection.”²⁹ Because targeting high-risk residences “means that the detected levels will likely be higher than if sampling were randomly distributed,”³⁰ Edwards’ data showing a 90th percentile lead level of 25 ppb is particularly alarming given that his sampling protocol would be expected to produce *lower* results than the targeted sampling protocol mandated by the Lead and Copper Rule.

The City’s monitoring data confirm that some Flint residents’ water contains lead at concentrations above the federal action level. Several samples collected by the City showed lead levels as high as 397 ppb, 25 times the action level.³¹ Although the City claims that its data show that the 90th percentile lead concentration is lower than the 90th percentile in Edwards’ sampling pool, these differences may be attributable to the sampling methods employed by the City. For instance, the City instructed residents to pre-flush their water for “at least 5 minutes” before collecting the sample.³² Pre-flushing has the effect of reducing the amount of lead in the sample, which is why one of the key steps residents can take to reduce their lead exposure following discovery of a lead problem is to flush their taps prior to consuming tap water.³³ Pre-flushing in sampling results in “significant underestimation of lead levels in drinking water.”³⁴ Pre-flushing is not included in the collection procedures EPA recommends,³⁵ and is contrary to the Lead and Copper Rule’s intent to use worst-case lead and copper sampling data.³⁶ Evidence also shows that in the January to June 2015 monitoring period, the City did not use a pre-developed sampling pool that targeted high-

²⁹ 56 Fed. Reg. at 26,514.

³⁰ *Id.*

³¹ See Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ (Mar. 18, 2015) (referring to sample with lead level at 397 ppb) (attached as Ex. 30); Email from Jennifer Crooks, U.S. EPA, to Stephen Busch, MDEQ, et al. (June 4, 2015) (referring to samples showing lead levels 22 ppb and 40 ppb) (attached as Ex. 31); Consumer Notice of Lead & Copper Results in Drinking Water (Feb. 18, 2015) (lead level at 104 ppb) (attached as Ex. 32); see also Mich. Dep’t of Env’tl. Quality, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Aug. 20, 2015) (showing six samples with lead levels over the action level (attached as Ex. 33).

³² Drinking Water Lead & Copper Sampling Instructions, *available at* http://www.michigan.gov/documents/deq/Lead_Copper_Sampling_Instructions_329915_7.pdf (attached as Ex. 34).

³³ Memorandum from Miguel A. Del Toral, Regulations Mgr., Ground Water and Drinking Water Branch, U.S. EPA Region 5, to Thomas Poy, Chief, Ground Water and Drinking Water Branch, U.S. EPA Region 5, re High Levels in Flint, Michigan—Interim Report 2 (June 24, 2015) (attached as Ex. 35).

³⁴ *Id.*

³⁵ U.S. EPA, Lead and Copper Rules Monitoring and Reporting Guidance for Public Water Systems 28 (Mar. 2010) (attached as Ex. 36).

³⁶ See Letter from Cynthia C. Dougherty, U.S. EPA, to Ralph Scott, Alliance for Healthy Homes (Sept. 12, 2008) (“[W]e believe that [pre-flushing] goes against the intent of the monitoring protocol, since it changes the normal water use of the homeowners in the sample.”) (attached as Ex. 37).

risk residences and did not sample sites consistently across monitoring periods.³⁷ This likewise may have caused the City's sampling results to underrepresent the 90th percentile lead level in the water system.³⁸

The lead contamination in Flint's water is likely to continue. As EPA has explained, "[t]he amount of lead in drinking water depends heavily on the corrosivity of the water,"³⁹ and testing has shown that Flint River water is highly corrosive. Moreover, the City has no treatment program in place to control the corrosive effects of the water on the City's thousands of lead service lines.⁴⁰

B. Lead in drinking water presents an imminent and substantial endangerment to Flint residents

The endangerment to Flint residents from lead in drinking water is both "imminent" and "substantial."⁴¹ The endangerment to community members' health is imminent because the threat "is present *now*."⁴² Highly corrosive water in the Flint River has been flowing through lead service lines in Flint's water system for more than a year without any corrosion control treatment, and sampling has already shown the existence of dangerously high levels of lead in residents' tap water.

The seriousness of the potential harms from lead exposure renders the endangerment "substantial" for purposes of the SDWA.⁴³ The poisonous effects of lead on "virtually every system in the body," and particularly on the developing brains of young children, are well documented.⁴⁴ "Even low levels of lead in blood have been shown to affect IQ, ability to pay attention, and academic achievement," effects that are irreversible.⁴⁵

³⁷ See *infra* p. 11 & nn. 70-74; 40 C.F.R. § 141.86(a), (b)(4).

³⁸ See *infra* p. 11-12.

³⁹ 56 Fed. Reg. 26,460, 26,466 (June 7, 1991).

⁴⁰ MDEQ, Frequently Asked Questions: Water Lead Levels in the City of Flint (Sept. 2015), https://www.michigan.gov/documents/deq/deq-spotlight-Flint_water_FAQs_500946_7.pdf (stating that Flint has more than 15,000 lead service lines) (attached as Ex. 38).

⁴¹ *Id.* § 300i.

⁴² *Meghrig v. KFC Western, Inc.*, 516 U.S. 479, 486 (1996) (interpreting substantial-and-imminent-endangerment provision in RCRA).

⁴³ *E.g., Me. People's Alliance v. Mallinckrodt, Inc.*, 471 F.3d 277, 288 (1st Cir. 2006).

⁴⁴ Centers for Disease Control and Prevention, Preventing Lead Poisoning in Your Children: Chapter 2 (Oct. 1991), <http://www.cdc.gov/nceh/lead/publications/books/plpyc/chapter2.htm> (attached as Ex. 39); see also 80 Fed. Reg. 278, 290 (Jan. 5, 2015) ("Lead has been demonstrated to exert a broad array of deleterious effects on multiple organ systems."); 56 Fed. Reg. 26,460, 26,467-68 (June 7, 1991).

⁴⁵ Centers for Disease Control and Prevention, *What Do Parents Need to Know to Protect Their Children?* (last updated June 19, 2014), http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm (attached as Ex. 40).

The scientific community has not identified *any* threshold of lead in blood below which there are no adverse health impacts.⁴⁶

Increased lead exposure from drinking water is dangerous because “drinking water can make up 20 percent or more of a person’s total exposure to lead.”⁴⁷ For infants whose diet consists of baby formula made with drinking water, lead in drinking water can make up between forty and sixty percent of total lead exposure.⁴⁸ Lead levels in drinking water above the federal action level have been associated with an increase in the rate of individuals with elevated blood lead levels.⁴⁹ Exposure to lead-contaminated drinking water has also been associated with fetal death and reduced birth rates.⁵⁰ As EPA has recognized, “[i]nfants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development.”⁵¹ In short, there is no safe level of lead in drinking water.⁵²

⁴⁶ Centers for Disease Control and Prevention, National Biomonitoring Program, Factsheet: Lead (last updated Jul. 12, 2013), http://www.cdc.gov/biomonitoring/Lead_Fact_Sheet.html (“No safe blood lead level has been identified.”) (attached as Ex. 41).

⁴⁷ U.S. EPA, Lead and Copper Rule: A Quick Reference Guide for Schools and Child Care Facilities that are Regulated Under the Safe Drinking Water Act (Oct. 2005), http://www.epa.gov/safewater/schools/pdfs/lead/qrg_lcr_schools.pdf (attached as Ex. 42).

⁴⁸ Lead in Drinking Water, Wisc. Dep’t of Nat. Res. 2008), http://dnr.wi.gov/topic/drink_ingwater/documents/forms/lead.pdf (attached as Ex. 43). Several cases have also been reported in which infant formula constituted from lead-contaminated tap water was determined to be the sole cause of childhood lead poisoning. *See, e.g.,* Michael Shannon & John W. Graef, *Lead Intoxication: From Lead-contaminated Water Used to Reconstitute Infant Formula*, 28 *Clinical Pediatrics* (8) 380, 381 (1989) (attached as Ex. 44).

⁴⁹ Ronnie Levin, et al., *Lead Exposures in U.S. Children, 2008: Implications for Prevention*, 116 *Environ. Health Perspect.* (1) 1285-93 (2008), *available at* <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2569084/> (attached as Ex. 45); CDC, *Blood Lead Levels in Residents of Homes with Elevated Lead in Tap Water—District of Columbia, 2004*, 53 *MMWR Weekly* (No. 12) 268-70 (Apr. 2, 2004), *available at* <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5312a6.htm> (attached as Ex. 46).

⁵⁰ Marc Edwards, *Fetal Death and Reduced Birth Rates Associated with Exposure to Lead-Contaminated Drinking Water*, 48 *Envtl. Sci. & Tech.* 739-40 (2013), *available at* <http://pubs.acs.org/doi/pdf/10.1021/es4034952> (attached as Ex. 47).

⁵¹ U.S. EPA, Basic Information about Lead in Drinking Water, *supra* note 11.

⁵² *See* Email from Jennifer Crooks, U.S. EPA, to Mike Prysby, MDEQ (Feb. 26, 2015) (“[T]here are no safe levels of lead in drinking water.”) (attached as Ex. 48); City of Flint Issues Lead Advisory, *supra* note 13 (recognizing that “no level of lead is considered safe”). Because no safe level of lead in blood has been identified, EPA promulgated a Maximum Contaminant Level Goal for lead in drinking water of *zero*, reflecting EPA’s determination that a threshold of zero lead in drinking water is the level at which “no known or anticipated adverse effects” on human health will occur, allowing for a margin of safety. *See* 40 C.F.R. §§ 141.2, 141.51(b).

Petitioners have reason to be concerned about the health impacts of increased exposure to lead in drinking water. A recent study conducted by researchers at Flint's Hurley Medical Center found that the rate of Flint children with elevated blood lead levels is rising. An analysis of 1746 Flint children under five years old showed that the proportion of children with elevated blood lead levels has *doubled* in the time since the City changed its drinking water source.⁵³ The study found that the rate of elevated blood lead levels in children under fifteen months is 2.5 times greater after the switch to Flint River water than the rate before the switch.⁵⁴ The study found no corresponding statistically significant increase in the rate of elevated blood lead levels of children living in Genesee County outside of Flint.⁵⁵ Data released by the State confirm that the percentage of Flint children under sixteen with elevated blood levels has risen (from 2.37% to 3.21%) since the switch to Flint River water.⁵⁶

This increased rate of children with elevated blood lead levels is even more alarming because the Flint community may be more at risk for elevated blood lead levels and lead poisoning than communities elsewhere in the country. Michigan ranks fifth worst in the country for harmful exposures to lead.⁵⁷ Low income is a risk factor for lead poisoning, and the proportion of families living below the poverty level in Flint is more than three times the national proportion (35.5% in Flint vs. 11.3% nationally in 2013 estimates).⁵⁸ Living in housing built before 1978 (when the federal ban on high-lead paint went into effect) is also a risk factor, because dust from lead paint continues to be a major source of lead exposure in children.⁵⁹ Nearly 90% of housing in Flint was built before

⁵³ Pediatric Lead Exposure in Flint, MI: Concerns from the Medical Community (PowerPoint Presentation), *available at* <http://flintwaterstudy.org/2015/09/pediatric-lead-exposure-presentation-from-hurley-medical-center-doctors-concerning-flint-mi/> (attached as Ex. 49).

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ Kristi Tanner & Nancy Kaffer, *State data confirms higher blood-lead levels in Flint kids*, Detroit Free Press, Sept. 29, 2015, <http://www.freep.com/story/opinion/columnists/nancy-kaffer/2015/09/26/state-data-flint-lead/72820798/> (attached as Ex. 50).

⁵⁷ Centers for Disease Control and Prevention, *Public Health in Action: Lead Poisoning Prevention in Michigan* (last updated Feb. 4, 2013), http://www.cdc.gov/nceh/information/healthy_homes_lead.htm (attached as Ex. 51).

⁵⁸ 2009-2013 American Community Survey 5-year Estimates, 2013, *available at* <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml> (enter "Flint, MI" in the box under "Community Facts," click on "Income" on left-side bar, then click "Selected Economic Characteristics" under "2013 American Community Survey") (table attached as Ex. 52 compares data from Flint, MI to Michigan and the United States).

⁵⁹ *See, e.g.,* Am. Cancer Soc'y, *Lead, Lead in the Environment*, <http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/lead> (last updated May 27, 2014) (characterizing lead paint as a "major" source of exposure) (attached as Ex. 53).

1978.⁶⁰ These factors show that the risks to Flint residents from lead exposure may be particularly acute.

The monitoring data showing high lead levels in Flint drinking water, combined with the well-known serious adverse health impacts of lead exposure, demonstrate “a substantial likelihood that contaminants capable of causing adverse health effects will be ingested by consumers if preventive action is not taken.”⁶¹ These circumstances constitute an imminent and substantial endangerment warranting emergency federal action.⁶²

IV. Neither the City nor MDEQ has acted to protect Flint residents from continuing health risks of exposure to high lead levels in drinking water

Federal emergency action is necessary because neither the City nor MDEQ has adequately addressed the danger to Flint residents from lead in their drinking water. To date, the local and state response to lead concerns has been, at best, nominal and ineffective.⁶³

The state-appointed emergency manager and MDEQ allowed the City to begin using the Flint River as its water source without adequately ensuring that the system would continue to “operate and maintain optimal corrosion control treatment,” as required by the SDWA.⁶⁴ The Lead and Copper Rule requires states to “review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system.”⁶⁵ But as of March 28, 2014, three weeks before the City planned to start using Flint River water, the City had not even submitted an application to the State for approval to make the change.⁶⁶ A month later, MDEQ had approved the change without requiring the City to implement corrosion control measures, as required by the Lead and

⁶⁰ 2012 Annual Data Report on Blood Lead Levels of Children in Michigan 26 (Apr. 2013), https://www.michigan.gov/documents/mdch/2012AnnualDataReportOnBloodLeadLevels_419508_7.pdf (attached as Ex. 54); see CPSC, *CPSC Announces Final Ban on Lead-Containing Paint* (Sept. 2, 1977), <http://www.cpsc.gov/en/Recalls/1977/CPSC-Announces-Final-Ban-On-Lead-Containing-Paint/> (attached as Ex. 55); Maj. Thomas F. Zimmerman, *The Regulation of Lead-Based Paint in Air Force Housing*, 44 Air Force L. Rev. 169, 175 (1998).

⁶¹ H.R. Rep. No. 93-1185, 1974 U.S.C.A.A.N. 6454, 6488 (July 10, Aug. 15, 1974) (defining when an endangerment may be considered substantial).

⁶² See *Trinity Am. Corp. v. U.S. E.P.A.*, 150 F.3d 389, 399 (4th Cir. 1998) (imminent and substantial endangerment found when “dangerous levels of [a] contaminant[] exist in [the] water supply,” and that the contaminant “pose[s] a great risk to human health”).

⁶³ See *id.* at 397 (explaining that “minor” and “ineffective” action by state and local authorities does not “strip EPA of its statutory emergency powers”).

⁶⁴ 40 C.F.R. § 141.81(b).

⁶⁵ 40 C.F.R. § 141.81(b)(3)(iii).

⁶⁶ Dominic Adams, *State says Flint hasn’t applied for permit to use river as drinking water source*, Michigan Live, Mar. 28, 2014, http://www.mlive.com/news/flint/index.ssf/2014/03/state_says_flint_hasnt_applied_1.html (attached as Ex. 56).

Copper Rule.⁶⁷ When EPA inquired about what the City was doing to control corrosion, MDEQ falsely stated that the City was already operating an “Optimized Corrosion Control Program.”⁶⁸ The opposite was true: as the State later admitted, the City had not implemented any corrosion control treatment measures (and still has not done so).⁶⁹

Further, evidence indicates that the City and MDEQ are either unwilling or unable to conduct tap water monitoring for lead in compliance with federal regulations. As discussed above, statements by a Flint Utilities Administrator suggest that the City did not identify a sampling pool prior to conducting monitoring, as federal law expressly requires. Instead, the Department of Public Works “just thr[ew] out bottles everywhere just to collect as many [samples] as we c[ould].”⁷⁰ The City even asked its own employees and their “family/friends who live in the city” to participate in the sampling group.⁷¹

The City also may not have complied with requirements for targeting high-risk homes, including the requirement that 50% of sampled sites contain lead pipes or copper pipes with lead solder.⁷² The City’s Utilities Administrator conceded that the City was “not really” able to determine that every residence sampled had lead pipes, even though this was what the City affirmatively reported to MDEQ in a monitoring compliance report.⁷³ Further, the City’s monitoring compliance report shows that the City did not meet the deadline to submit its monitoring results and did not comply with the requirement to sample the same sites across monitoring periods.⁷⁴ During the January to June 2015 monitoring period, the City initially sought to obtain 100 samples.⁷⁵ After the City failed to collect that number, MDEQ decided that only sixty samples were required.⁷⁶

⁶⁷ See 40 C.F.R. § 141.81(a)-(b).

⁶⁸ See Email from Stephen Busch, MDEQ, to Jennifer Crooks and Miguel Del Toral, U.S. EPA (Feb. 27, 2015) (“The City of Flint . . . [h]as an Optimized Corrosion Control Program[.]”) (attached as Ex. 57).

⁶⁹ Email from Pat Cook, MDEQ, to Miguel Del Toral, U.S. EPA (Apr. 24, 2015) (“Flint is not currently practicing corrosion control treatment at the [Water Treatment Plant].”) (attached as Ex. 58).

⁷⁰ See 40 C.F.R. § 141.86(a)(1); *Thirst for Truth: Who’s to Blame for Flint Water Crisis?* (ACLU of Michigan, Jul. 28, 2015), available at <https://www.youtube.com/watch?t=9&v=LT09irD2f0Y> (statement of Michael Glasgow, Utilities Administrator).

⁷¹ Email from Michael Glasgow (June 1, 2015) (attached as Ex. 59).

⁷² 40 C.F.R. § 141.86(a)(8).

⁷³ *Thirst for Truth*, supra note 70 (statement of Michael Glasgow, Utilities Administrator, at 5:30-5:45).

⁷⁴ City of Flint Water Plant, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply (Jul. 28, 2015) (checking “no” box in response to question asking whether City used the same sampling sites as the previous monitoring period) (attached as Ex. 60); see 40 C.F.R. §§ 141.86(b)(4); 141.90(a)(1).

⁷⁵ See Email from Adam Rosenthal, MDEQ, to Michael Glasgow, Brent Wright, City of Flint (June 25, 2015) (attached as Ex. 61).

⁷⁶ *Compare id.* (“We hope you have 61 more lead/copper samples collected and sent to the lab by 6/30/15, and that they will be below the AL for lead. As of now with 39 results,

Compliance with the SDWA's monitoring requirements is critical to accurately assessing the levels of lead in Flint's water, and to ensuring implementation of the drinking water standards set forth in the Lead and Copper Rule. Although the serious apparent flaws in the City's testing procedures call into question whether the City is complying with the SDWA, both the City and MDEQ continue to maintain that Flint's water "is meeting state and federal drinking water standards."⁷⁷

Neither the City nor MDEQ has taken measures to broadly provide an alternative, free source of safe drinking water to residents. Instead, state and local authorities have dismissed citizen concerns about lead in drinking water as "near-hysteri[cal]" and "irresponsible."⁷⁸ City officials have encouraged residents to install in-home water filters, flush their taps before using the water, and send their children to school with bottled water, all at the residents' own expense, which is alarming given that there are roughly 14,000 households in Flint with children under 18, and nearly three-quarters of the children in those households receive Supplemental Security Income (SSI), cash public assistance income, or Food Stamp/SNAP benefits.⁷⁹ These remedies are inadequate: filters are expensive, may clog quickly, are of varying effectiveness at removing lead, and require

Flint's 90th percentile is over the AL for lead."), *with* City of Flint, Lead and Copper Report and Consumer Notice of Lead Result Certificate for Community Water Supply, *supra* note 31, at 1 ("Revised report after conference call with DEQ staff . . . [D]ue to population the number of samples required was reduced to 60.").

⁷⁷ Letter from MDEQ to MI State Senators 2 (Sept. 17, 2015) (attached as Ex. 62); City of Flint, *City of Flint Issues Lead Advisory*, *supra* note 13 ("[T]he City is in full compliance with the Federal Safe Drinking Water Act.").

⁷⁸ *Did this Michigan Town Poison its Children?*, U.S. News & World Report, Sept. 24, 2015, <http://www.usnews.com/news/articles/2015/09/25/flint-michigan-children-show-high-levels-of-lead-in-blood> (attached as Ex. 63); Ron Fonger, *Feds sending in experts to help Flint keep lead out of water*, Michigan Live, Sept. 10, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/university_researchers_dont_dr.html (attached as Ex. 64). The City's statement that it will "work with [MDEQ] on implementing water optimization measures to reduce the corrosive effects of water on older pipes" by 2016 is a hollow promise given the present and continuing exposure to lead and lead's irreversible effects on human health. Ron Fonger, *Flint will have lead-reduction plan for water system by 2016, officials say*, Michigan Live, Sept. 3, 2015, <http://www.mlive.com/news/flint/index.ssf/2015/09/mayor.html> (attached as Ex. 65).

⁷⁹ City of Flint, *City of Flint Issues Lead Advisory*, *supra* note 13; Amanda Emery, *Flint public school students told to bring own water to school*, Michigan Live, Sept. 25, 2015, http://www.mlive.com/news/flint/index.ssf/2015/09/flint_community_schools_asks_s.html (attached as Ex. 66); *see* factfinder.census.gov (2010 data) (enter "Flint, MI" in box under "Community Facts," then click "General Population and Housing Characteristics" under "2010 Census") (attached as Ex. 67); 2009-2013 American Community Survey 5-Year Estimates, Children's Characteristics (2013 estimate), factfinder.census.gov (enter "Flint, MI" in box under "Community Facts," then click "Poverty" on left-side bar, then click "Children Characteristics") (attached as Ex. 68).

ongoing maintenance. Pre-flushing is also imperfect, does not always eliminate lead, and may be prohibitively expensive for many families given Flint's high water rates.⁸⁰

The City's and State's apparent lapses in regulatory compliance, and their failure to take responsibility for responding to the City's lead problems, demand federal intervention.

V. EPA should act immediately to adequately address the public health emergency created by lead in Flint drinking water

Petitioners urge EPA to take all actions necessary to abate the endangerment presented by lead in Flint's drinking water, and to inform Flint residents about the potential hazards of drinking the City's tap water. At minimum, Petitioners request that EPA:

- Immediately order the City and MDEQ to reconnect Flint's water system with water from the Detroit Water and Sewerage Department. EPA should work with the City of Flint, MDEQ, and the Detroit Water and Sewerage Department to facilitate this renewed connection as soon as possible.
- Immediately provide Flint residents with an alternative, free source of safe drinking water that meets EPA standards. This may include providing customers with free bottled water or providing (and routinely maintaining) free in-home and replacement filters that are certified to remove lead by NSF International.⁸¹
- Immediately order the City to advise all Flint water customers to avoid consuming unfiltered water from the City's water system. The notice should warn customers not to use unfiltered Flint water to make baby formula or for children. The notice should inform customers that if they have no alternative water source, they should flush Flint water for *a minimum* of five minutes before

⁸⁰ Dominic Adams, *Flint monthly water and sewer bills highest in Genesee County by \$35*, Michigan Live, June 1, 2014, http://www.mlive.com/news/flint/index.ssf/2014/06/post_386.html (citing Flint bills at \$140/month) (attached as Ex. 69). A state-court judge recently ruled that the Emergency Manager's decision to significantly raise water rates was unlawful. Ron Fonger, *Judge orders Flint to cut water rates 30% in sweeping injunction*, Michigan Live, Aug. 7, 2015, http://www.mlive.com/news/flint/index.ssf/2015/08/flint_ordered_to_cut_water_rat.html (attached as Ex. 70).

⁸¹ See U.S. EPA, Planning for an Emergency Drinking Water Supply (June 2011) (provision of bottled water is a "common federal response" in emergencies) (attached as Ex. 71); cf. 40 C.F.R. § 141.101 (allowing public water systems to use bottled water on a temporary basis "to avoid unreasonable risk to health"); U.S. EPA, Memorandum re: Update on Providing Alternative Water Supply as Part of Superfund Response Actions (Sept. 24, 2010), <http://www.epa.gov/superfund/health/conmedia/gwdocs/pdfs/610732.pdf> (allowing delivery of bottled water on a temporary basis in certain circumstances in CERCLA removal or remediation actions) (attached as Ex. 72).

use. EPA should prohibit the City from charging water customers for this flushing time.

- Use its authority under 40 C.F.R. §§ 142.19 and 141.82(i) to review MDEQ's determinations concerning corrosion control requirements for the Flint water system, and issue a federal order establishing the optimal corrosion control treatment requirements for the Flint water system and requiring Flint to immediately comply with these requirements.
- Order the City to conduct continued monitoring for lead and copper in six-month periods in accordance with the procedures set forth in 40 C.F.R. § 141.86. EPA should directly oversee the City's monitoring by ordering the City to submit a Quality Assurance Project Plan (QAPP) to ensure that all information, sample collection, analytical data and resulting decisions are technically sound, scientifically valid, and properly administered. EPA must approve the City's QAPP before the City conducts any additional monitoring. EPA should prohibit the City from conducting reduced monitoring under 40 C.F.R. § 141.86(d)(4) for at least five years.
- Order the City to comply with the public education and supplemental monitoring requirements in 40 C.F.R. § 141.85, including but not limited to immediately notifying consumers of the results of tests completed at their homes or places of business, and providing the public education, monitoring, and notification established in those rules.
- Order any other additional relief that EPA determines is "necessary to protect the health" of Flint residents from lead contamination in drinking water.

VI. Conclusion

For the foregoing reasons, Petitioners respectfully request that EPA take the actions necessary to abate the imminent and substantial endangerment to Flint residents' health from lead contamination in their drinking water.

Dated: October 1, 2015

Respectfully Submitted,

/s/ Pastor Allen Overton

Pastor Allen Overton

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